United States Court of Appeals for the Second Circuit



TRANSCRIPT

United States Court of Appeals

FOR THE SECOND CIRCUIT

SUN ENTERPRISES, LTD., SOUTHERN NEW YORK FISH AND GAME ASSOCIATION, INC., LYMAN E. KIPP, RICHARD E. HOMAN, NO BOTTOM MARSH and BROWN BROOK,

Plaintiffs-Appellants,

-against-

RUSSELL E. TRAIN, et al.
["Federal Defendants"], Defendants-A

HERITAGE HILLS OF WESTCHESTER, et al. ["Private Defendants"],

Intervenors.

SUN ENTERPRISES, LTD., SOUTHERN NEW YORK FISH AND GAME ASSOCIATION, INC., LYMAN E. KIPP, RICHARD E. HOMAN, NO BOTTOM MARSH and BROWN BROOK,

-against-

ADMINISTRATOR OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY, RUSSELL E. TRAIN,

Respondent, and

HERITAGE HILLS OF WESTCHESTER, et al.

Intervenors.

Appeal from the U. S. District Court for the Southern District of New York

Petition to Review Order of U. S. Environmental Protection Agency

TRANSCRIPT OF DEC Hearing, Volume 4 of 9

BLASI & ZIMMERMAN, Esq., 360 South Broadway Tarrytown, New York 10591 (914) 631-5111

Anderson Russell Kill & Olick, P. C.,
630 Fifth Avenue
New York, N. Y. 10020
(212) 397-9700
Attorneys for Intervenors,
Heritage Hills of Westchester, Paparazzo,
McGann, H&H Land Corp., Heritage Hills
Sewage-Works Corporation and Heritage
Hills Development Group, Inc.

ARTHUR S. OLICK DAVIS M. ZIMMERMAN JEROLD OSHINSKY JANE S. SOLOMON Of Counsel

THE

STENOGRAPHIC RECORD

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter

of

the Application of HENRY PAPARAZZO and CURTIS McGANN (HERITAGE HILLS) for the acquisition of a source of water supply, etc.

Water Supply Application No. 6284

October 2nd, 1973 Town of Somers, N. Y.

PAULINE E. WILLIMAN
THOMAS P. FOLEY
CERTIFIED SHORTHAND REPORTERS
41 STATE STREET
ALBANY, N. Y.

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter

of

the Application of HENRY PAPARAZZO and CURTIS McGANN (HERITAGE HILLS) for the acquisition of a source of water supply by the development of wells to ultimately supply 1.2 million gallons per day and the construction of a water supply and distribution system to provide service to a planned residential community consisting of approximately 3,000 living units known as Heritage Hills of Westchester County, for the construction of a dam approximately 20 feet high to create a pond having an area of approximately 1.6 acres on an unnamed tributary, known locally as Brown Brook, of the New Croton (Muscoot) Reservoir which is designated H-31-P-44-18 and which has been classified C(T), for the construction of a sewage effluent discharge structure. and for relocation of approximately 650 feet of the so-called Brown Brook to build a sewage treatment facility.

Water Supply Application No. 6284

CONTINUED TRANSCRIPT OF PROCEEDINGS

held in the above-entitled matter at a hearing held by the New York State Department of Environmental Conservation at the Town Hall, Town of Somers, Westchester County, New York, on Tuesday, October 2nd, 1973, commencing at 10:00 o'clock A.M.

PRESIDING:

WILLIAM J. DICKERSON, JR.,

APPEARANCES:

Hearing Officer.

(As heretofore noted.) THOMAS P FOLEY

PROCEEDINGS

MR. DICKERSON: This is a continuation of a hearing before the Department of Environmental Conservation in the matter of the application of Henry Paparazzo and Curtis McGann under Water Supply Application No. 6284 and related Stream Protection Applications 36-24-0051(SP85) and (SP86).

My name is William Dickerson, for those who are new here this morning. I'm the Hearing Officer for the Department of Environmental Conservation.

I'm not going to completely re-read
the notice but I will refresh our memories. The
application, basically we're dealing with the
acquisition of a source of water supply by the
development of wells and the construction of a
water supply and distribution system for a planned
residential community consisting of approximately
3,000 living units known as Heritage Hills of
Westchester; also an application for the construction
of a dam approximately 20 feet high to create a pond
having an area of approximately 1.6 acres on the

stream that is locally known as Brown Brook; for the construction of a sewage effluent discharge structure or sewage outfall might be the simplest term, and for the relocation of approximately 650 feet of the same Brown Brook.

I would comment again for bringing things back to course, the water supply legal determinations that we have to make are whether the project -- whether the plans are justified by public necessity, whether they provide for the proper and safe construction of all work, whether they provide for the proper protection of the supply and watershed from contamination or provide for the proper treatment of such supply, whether they are just and equitable to other municipalities affected and to the inhabitants thereof, with particular consideration being given to their present and future needs for water supply and whether they make fair and equitable provisions for the determination and payment of any and all legal damages.

As regards the dam application and
the stream protection applications, the determinations
are whether the execution of those plans would adversely

affect the health, safety and welfare of the people of the State and the natural resources thereof.

One housekeeping matter to take care of before we resume. I'm going to mark for identification as Exhibit No. 30 a letter from Mr. Gilbert Faustel, Chief of the Water Supply Design and Construction Section of the New York State Department of Health. This letter is dated September 14th, 1973 and reads as follows:

"We are generally satisfied with the reply letter dated September 11, 1973 from Nebolsine, Toth, McPhee Associates, copy attached, and our letter of objection on the above project dated August 31st, 1973.

"However, Mr. Calvin Weber, P.E., of the Westchester County Health Department will be presenting testimony regarding Part C of our original objection in our letter dated August 31st on his behalf."

I'm going to receive Exhibit 30 and attached letter into evidence for what it's worth as an indication that the State Health Department has withdrawn its objection. The County Health

PAULINE E WHILIMAN

still has full rights and is continuing to appear in these proceedings.

(The letter dated September 14, 1973 described above was marked and received in evidence as Exhibit No. 30, this date.)

MR. DICKERSON: At this time, I think we'll get back to where we were when we left.

Mr. McPhee was undergoing cross-examination. As I recall or the best I can recall, Mrs. Daly had finished her questions of him. I'll try and pick up where we left off.

WALTER MC PHEE.

recalled as a witness, for and in behalf of the applicant, having been previously duly sworn, was examined further and testified as follows:

MR. DICKERSON: Miss Eustace here?
(There was no response.)

The Westchester County Water Agency?

Anybody from Westchester County? Do you have any

further questions of this witness, sir?

MR. ALEXANDER: There was one -- I have no further questions but there was one item that was dealt with on cross-examination at the last session

relating to the capacity of the aquifer and Mr.

McPhee said he could obtain that. He felt he had

it somewhere in his records, and he was to furnish

that at a later time. I think he's probably

prepared to furnish that now.

MR. DICKERSON: I would presume Mr.

Blasi will cover that on redirect. Is that the

case? I think it would be simpler rather than to

get caught up in the middle of cross-examination, to

see if anybody has further cross-examination, generally

present.

MR. BLASI: Any way you want to handle it, Mr. Examiner.

MR. DICKERSON: I think this would be simpler.

MR. BLASI: Yes.

MR. DICKERSON: You have some redirect?

MR. BLASI: Yes, I have some.

MR. DICKERSON: Then we'll wrap up once and for all, any other questions.

MR. FLORENCE: Do I get one more bite?

MR. DICKERSON: I think you can cover

your questions in the recross, if you will.

PAULINE E. WILLIMAN

STITUTO SHOSTHAND REPORTERS

I just want to go on. I don't want to go backing and filling through this list.

MR. FLORENCE: That's O.K.

MR. DICKERSON: I'll go down once.

We'll go down once more and that's it. Is that satisfactory?

(Continued)

MR. DICKERSON: (Cont'g.) Mrs. Rauch, or Rauch? Mrs. Nardelli? Mrs. Goldman? Mrs. Saia? (No response.)

MR. DICKERSON: I think I will just turn it over to you, Mr. Blasi.

REDIRECT EXAMINATION BY MR. BLASI:

Q. Mr. McPhee, at our previous session, in response to a question of Mr. Alexander on behalf of the West-chester County Department of Health, you indicated that you would produce at this session some additional material consisting of an estimate of the capacity of the aquifer, if I recall correctly, and also some graphs relating to the water supply vich you, I understand, have prepared in accordance with that request. Now, do you have with you the calculation of water storage in the Heritage Hills well field west of Routes 202 and 100?

A. Yes, I do.

MR. BLASI: May I ask that it be produced and marked for identification.

THE WITNESS: Accompanying that calculation, which is the calculation of the volume of

water storage in the aquifer, are some backup sheets which are graphical presentations of the data as presented in the Water Supply Report.

BY MR. BLASI:

- Q. Did you consider this one exhibit, Mr. McPhee, as an engineering backup?
 - A. I would consider it as an engineering backup of the calculations.

MR. BLASI: Well, then may I have this exhibit consisting of four sheets marked for identification, Mr. Examiner?

MR. DICKERSON: For identification,
Exhibit No. 31 is entitled "Calculation of Water
Storage in Heritage Hills Well Field West of Routes
202-100," and consists of four sheets, three sheets
of which are plotted graphs.

(The above-entitled document was marked Exhibit No. 31 for identification, this date.)

MR. DICKERSON: Mr. McPhee, do you want to refer to this, sir (indicating)?

V MD DIACT.

BY MR. BLASI:

Q. Now, Mr. McPhee, Exhibit 31 marked for identification is an enlargement of your water supply report. Is that correct?

A. That's right. The water supply report indicated a certain volume of storage calculated in the aquifer, and accompanying that calculation is also the graphical presentation of the data as tabulated in the back of the report. The calculation indicated that there is approximately 50 million gallons of water stored in the aquifer.

MR. BLASI: I offer it in evidence, Mr. Examiner.

MR. FLORENCE: May I inquire?

MR. DICKERSON: Mr. Florence, did you

want to examine this?

MR. FLORENCE: Yes, I do. I was looking for that other figure that I just heard.

MR. DICKERSON: O.K. Let's relax for

a minute.

(Discussion off the record.)

MR. FLORENCE: May I inquire of Mr.

McPhee with respect to the introduction or the proposed introduction of Exhibit No. 31?

VOIR DIRE EXAMINATION
BY MR, FLORENCE:

Q. Would it be fair for me to conclude that you drew

Q.

this information since the last time we met, Mr. McPhee?

A. This information had been prepared. It was reworked. It had been prepared in our original analysis.

Q. Well --

- A. The presentation you see here is a recent presentation, but the data was in the calculation books.

 The drawdown curves had been drawn.
- A. Well, the drawdown is actually a plotting of the data which is found in the back of the water supply report on the well logs, the pumping tests. It's just a graphical presentation of that data. That's all it is.

The drawdown had already been taken?

Q. May I inquire in that respect, sir, with relation to converting the information you have in your booklet to this graph. The information in the booklet, it deals with a 60-hour period of time, if I'm reading the graph correctly.

A. Right.

Q. Or the table correctly. However, as I understood your earlier testimony, a fairer and closer, more

accurate drawdown curve could be plotted by an observation of the characteristics of these wells over a substantially longer period of time.

MR. BLASI: I object to the question.

BY MR. FLORENCE:

Q. Is that correct?

MR. BLASI: That was not the testimony as I recall it.

MR. FLORENCE: Well, I think that the witness has a recollection rather than his attorney.

MR. BLASI: Well, is he asking, does he recall? You didn't say, "Do you recall?" If you preface your question, "Do you recall," then I can have no objection: Do you recall such and such a statement? But if you paraphrase the testimony and it's not the way it is in the minutes, I know it's not the way it is in the minutes, then I'm going to object to it.

MR. DICKERSON: Mr. McPhee, to simplify matters, do you prefer to recall what you did say on that?

THE WITNESS: I believe in my first

testimony that a statement similar to that might have been made. Let me see. Let me just check.

The only statement I think that you might be referring to is one on page 5 of my presentation: After the wells are completed and tested over a longer period of time, the safe yield should be less than is now estimated. Additional wells will be tested either on the present site or other lands. If they should be inadequate, then plans would be developed to tap the New York City aquifer.

BY MR. FLORENCE:

- Q. Well, that's not specifically what I referred to, but using that statement as a reference, these drawdown curves are based on a 60-hour test as distinguished from, say, a longer testing period of time, as I understand it; that there is no additional information beyond that 60 hours noted on any of these curves.
- A. That's a long question. Can I try to answer it-Q. Break it down any way you want.
 - A. As I stated when it was presented, this is a graphical presentation of the data as presented with the water supply report. Therefore, it's only that

3-1-

data, and that data is based on a 60-hour test.

- Q. All right. Now, in order to get a truer -- well, let me withdraw the question physically and I'll ask it in a different way. I'll give you this hypothesis if I might, Mr. McPhee. If we had drawn all of the wells that were listed in the back of the book simultaneously over a period of time in a different time of the year that would include two, three months, is it possible or likely that the drawdown curve would, in fact, be a different line than what is depicted here in the -- in your graphs noted on four of the five pages?
 - A. I don't think the drawdown curve would vary substantially from what's on there.
- Q. Would it be your opinion that the recovery would be or could be in any way --
 - A. Yes, the recovery might vary.
- Q. And in a sense, in essence rather, the recovery would be substantially less?
 - A. Counting on the time of the year and the rainfall preceding it, yes.
- Q. In relation to taking the most accurate information, let's start with the hypothesis of the most accurate

- results, would it not have been better practice to draw all -- have all three wells running for a substantial period of time before, and to chart that information, graph it, either in by the table in Exhibit 5 or by any other means before prognesticating a recovery, hypothesizing a true recovery?

 A. State it again. I'll have to --
- Q. O.K. Are the words not making any sense to you?

 A. Well, I think you're tying two things together which really can't be tied together. That's where I'm having difficulty in understanding it.
- All right, I'll try it again. The hypothesis or the hypothetical end I'm asking for is your mind's eye is the most accurate recovery information, not the best or the highest recovery rate. I'm looking for the most accurate recovery rate in this particular aquifer and as I had understood the testimony by Mr. Sullivan of Lauman, they had done sequential testing. They tested one well at one time, then they tested a nother well at another time and then they tested a third well.

MR. BLASI: No, that's not true; I

object to that.

A. I --

MR. FLORENCE: If we could have the witness do the testifying instead of Mr. Blasi?

MR. BLASI: Well, I object to it again because you're quoting again Mr. Sullivan's testimony incorrectly and I think the Examiner heard it.

MR. DICKERSON: I think you'll find that the data in Exhibit 5, the plotted data, were all taken at the same time.

THE WITNESS: It was all simultane-

MR. DICKERSON: All simultaneous plotting or pumping, excuse me.

- Q. In other words, the simultaneous -- the three wells were taken simultaneously on the 19th, 20th and 21st of December?
 - A. I think that's indicated. If you look at the three plots, you'll see that the start of pumping on the Well No. 3 was at 8:45 A.M. on 12/19/1972. Well No. 2 was at 8:15 A.M. on 12/19/72 and then Well No. 1 was at 7:45 A.M. on 12/19/72 and they continued pumping. Well No. 3 was stopped at --

test ended at 8:10 P.M., 12/21/72. The test on No. 2 ended at 12 -- at 8:15 P.M. on 12/21 and on the No. 1 ended at 8:00 o'clock, 8:00 P.M., on 12/21, indicating the test being within a matter of minutes starting and stopping simultaneously.

- Q. All right. Now, with -- in relation to the tests
 and the locations of the tests, the tests were taken
 within a substantially small area of the total
 aquifer, as I understood your description of the
 aquifer?
 - A. They were spread approximately 1,200 feet apart.
- Q. Out of the 3,500 feet you estimated?A. The upper -- the upper end of the aquifer.
- Q. The nub of the whole question or the line of questioning is what tests did you take to assure yourself
 that what you were really not doing was pumping out
 and having a reintroduction into the aquifer of water
 already pumped?

MR. BLASI: I object to that question.

That calls for 14 conclusions. If you're asking him what he did or what he didn't do, that's fine.

MR. FLORENCE: I asked.

MR. BLASI: The actual fact of what he

did or didn't do.

MR. FLORENCE: That's what I asked.

MR. DICKERSON: I think there's a very obvious answer to this. I don't like to interject but I think we have already received the well logs in testimony as exhibits and into evidence and anybody with any background, the answer is obvious.

MR. FLORENCE: O.K.

MR. DICKERSON: The 15 feet of clay plus or minus will more than sufficiently present that.

MR. FLORENCE: I understood the 15

feet or clay but I also understood that that's in one
part of the aquifer. I didn't understand what other
tests he's taken in other parts of the aquifer.

MR. DICKERSON: Get to that point, but in the area of the wells it would be highly unlikely that any of the well water would immediately return to the aquifer at least to the point of having any effect on the test results.

BY MR. FLORENCE:

Q. All right. Mr. McPhee, was there any examination of the subterranean soil in other parts of the aquifer

than in the area or the direct area of where the wells are located?

- A. There was exploration work to determine the location of the wells, yes, the limits of the aquifer and where the limits of the deepest portions were located.
- Do you have that information with you, sir? Q. A. No, I don't have that with me.
- Was that taken at your direction or by you? Q. A. This was done earlier before I became the prime engineer.
- Was it done by persons in your firm or under your Q. direction or was it done by others, to your knowledge? A. It was done by others.
- That would be Sullivan of Lauman? Q. A. Sullivan, Lauman Company, and the Rotfeld Associates, under their direction.
- All right. With respect to your calculation, these Q. figures of the 15- and the 3,500 and the 500 are guesses, are they not?
 - A. They are estimates, engineering judgment.
- Is that a euphemism for a guess? Q.
 - Which way do you want to take it?

MR. BLASI: I object to that, improper in form. I don't mind the humor but I think the question is improper.

MR. DICKERSON: Especially when referring to a geological question.

THE WITNESS: I think engineering judgment and guesses go hand in hand.

BY MR. FLORENCE:

Q. Good enough. Would it be fair then to say that these recovery lines more than likely will vary over a substantial period of time?

A. They have to.

MR. FLORENCE: All right, I would object on that basis, Mr. Hearing Officer, to the exhibit.

MR. DICKERSON: Your objection is overruled. I'll receive Exhibit 31 into evidence.

MR. FLORENCE: Respectfully except,

Your Honor.

MR. DICKERSON: Exception noted.

MR. FLORENCE: Thank you.

(Exhibit No. 31 previously marked for identification was received in evidence, this date.)

MR. DICKERSON: Mr. Blasi?

MR. BLASI: Yes, sir.

MR. DICKERSON: Anything further?

MR. BLASI: A few minor points, Mr.

Examiner.

REDIRECT EXAMINATION
BY MR. BLASI: (Cont'd.)

- Q. Mr. McPhee, you recall that you were asked certain questions regarding Kent Sussex Development?

 A. Yes.
- Q. And do you recall that you were asked whether you were the consultant on that development?

 A. Yes.
- Q. And do you recall that you testified that as currently proposed the effluent would discharge --

MR. FLORENCE: I'm going to respectfully object, if I may, to the form of the question as being improper.

MR. BLASI: What's the objection?

MR. FLORENCE: Improper form.

MR. BLASI: I'm asking --

MR. FLORENCE: Redirect. You can do

anything if you'd like.

MR. BLASI: It is redirect. You

examined him on that. This was part of the cross.

MR. FLORENCE: Then your question is improper.

MR. BLASI: No, sir, it's redirect.

I have a right to straighten him out on any point.

MR. DICKERSON: I'm going to let him

proceed.

MR. FLORENCE: The form of the question is improper and I respectfully except.

MR. DICKERSON: Gentlemen, I'm going to make the same allowances for the attorneys on the format. I'm interested in trying to get to the facts. If there's any holes left, I'm going to try and pick them up at the end. I would like to proceed. If there's anything blatantly improper, I'll react accordingly but I'd like to get on with it if we may.

BY MR. BLASI:

- Q. Mr. McPhee, do you recall what you testified to
 with reference to the discharge of the effluent into
 Plum Brook?
 - A. Yes, I was asked the question whether I was working for the Kent Sussex on their Primrose Farms Development and that they would have a sewage

into Plum Brook and I think I answered yes, it would discharge into Plum Brook. So they just started work on their project and I'm not as familiar with the names of the brooks and their locations as I am in this area. Actually, I was mistaken. It does not discharge into Plum Brook but discharges into a branch of Angle Fly Brook which discharges into the -- in turn into the outlet from the Amawalk Reservoir.

- Q. Now, Mr. McPhee, do you recall Mr. Vazzana asking you whether there was any garbage deposited on the well sites of Wells 1, 2 and 3?
 - A. Yes, I do.
- Q. Have you examined the well sites since that question was asked of you?
 - A. Out of curiosity I had to go back up and take a look at it because I hadn't recalled ever seeing any up there and there isn't any to my -- that I could find.

MR. BLASI: No further questions, Mr.

MR. DICKERSON: Thank you.

Examiner.

Now, in order to expedite this, I'm going to go back down the list of the various parties once. I would like to get all the questions of Mr. McPhee over with in this process. I will disregard the fine points between questions on the direct testimony and redirect, but simply to get this done once and for all, and take Mr. McPhee off the stand.

Does the Department have any questions of this witness?

MR. MANNA:

No, sir.

MR. DICKERSON: Mr. Alexander?

MR. ALEXANDER: No further questions

on behalf of the County or the State Health Department.

MR. DICKERSON: O.K. Mr. Florence?

MR. FLORENCE: I was thinking of a

couple.

RECROSS-EXAMINATION BY MR. FLORENCE:

Q. You're familiar with the New York State Department
of Environmental Conservation policy with respect to
the discharge into intermittent streams, are you not?

- A. Yes, I am.
- Q. And, sir, what is that policy as you understand it?

 A. Well, it is actually presented in the Waste

 Water Facility Report in the memorandum from Paul W.

 Eastman.
- Q. Would you explain to me what you understand of the report rather than read it to the audience?

 A. My understanding is that one allowing the discharge of treated effluents into a stream classified by the state as an intermittent stream would have to approach that on a fairly unpolluted stream, the waters discharged to.
- Q. Under what circumstances is discharge into any stream permitted?
 - A. Those circumstances are not spelled out by the state. The state makes the decision as to when it is a necessity.
- Q. Doesn't, in fact, the state talk about emergency, not necessity?
 - A. I believe they use that word, yes.
- Q. And the emergency, does that in your mind conjure up economic considerations or ecological considerations or both or neither?

- A. I presume both.
- Q. Now, as I understand it, the selection -- the site had been selected prior to your retainer?

 A. That's right. The Master Plan behind you indicates in October of '72 that the utility site was delineated on that map.
- Q. Now, is it also true that there are now three streams, not two, draining the entire site area or am I mistaken, namely, the tributary to the Plum Brook, the area that is drained by the brook known as Brown Brook and the unnamed stream that --
 - A. It's on the other map.
- Q. Runs from the Summit Lake down across Route 202 to the north?
 - A. That is correct.
- Q. All right. So then you would modify your water report where you talk about drainage to streams, would that be fair?
 - A. The Waste Water Report?
- Q. No, your water supply report. I think it's in that No. 5.

MR. DICKERSON: I have No. 5 right

here.

- A. Let me see that.
- Q. See if I can find it.

MR. BLASI: What page are you referring

to?

MR. FLORENCE: Page 3 of Exhibit 5.

THE WITNESS: That is correct. We

refer to only two water courses.

(Continued on page 651)

- Q. And actually there are three, aren't there?A. There is a third.
- Q. And all three of them, sir, drain different portions of this area which is part of this application.
 A. That is correct.
- Q. Did you walk the entire area prior to filing your reports, Mr. McPhee?
 - A. No, not the entire area.
- Q. Are you familiar, or were you familiar with the existing residences in and about this area prior to the concurring, as I understand or recall your testimony, in the judgment that the sewer plant -- I don't know the euphemism, I am sorry -- the waste water treatment plant be located near the intersection of Warren or up Warren Street from Route 202?

 A. I looked at the maps as far as any nearby residences as far as meeting State requirements, yes.
- Q. And what was your observation of the existence of residences in and about the area where this proposed site was?
 - A. That we had a restriction as far as the required sethack from the street.
- Q. Let me ask you, sir, does that restriction exist in

areas where there are no existing on family residences or no development of the land?

- A. That restriction is a memorandum from somebody in the Health Department quite a few years ago, and it says to residences. I don't think it refers to setback distances and so forth as far as zoning is concerned.
- Q. Do I misrepresent your earlier cross-examination testimony that you had understood there were setback requirements by the Town of Somers in their designed residential development scheme?
- A. This was my understanding, that there was a 100-foot buffer zone to be maintained along some roads.
 - Now, I will show you a copy of the designed residential development zoning ordinance as it was enacted and introduced in evidence as Exhibit No. 13 and ask you -- Section 72-02, I believe my recollection is that it's 72-02. Am I right? -- and ask you if you just briefly would peruse that and show me if, in fact, there are any setback requirements or buffer zones in the zoning ordinance of the Town of Somers as they apply to this application, and in the spirit of saving some time, I'll load the question the other way. Isn't it true that there were no setbacks or

Q.

setback requirements within the framework of the ordinance, but rather the setbacks were part of the proposal of the Zoning Board of Appeals, permitting you because you had put, in fact, that plant in an area where there were existing residences?

MR. BLASI: I'm going to object to the question because it calls for an operation of the mind of the Zoning Board of Appeals. There are two exhibits in evidence, the entire ordinance and a resolution and decision of the Zoning Board of Appeals which speak for themselves.

MR. FLORENCE: I would have compared the requirements of the -- are you going to make a ruling on that?

MR. DICKERSON: I'm going to sustain it.

BY MR. FLORENCE:

Q. In comparing the resolution of the Zoning Board of

Appeals to the requirements of this designed residential

development --

MR. BLASI: Mr. Examiner, I press my objection --

Q. -- statute --

MR.BLASI -- and I refer the Examiner

PAULINE E WILLIMAN

THOMAS

and Mr. Florence to page 4, paragraph 3, of the certified copy of the resolution.

MR. DICKERSON: To simplify things,

Mr. Blasi, is it the i tention of your client

to include a suitable buffer zone and green belt around

the utilities area?

MR. BLASI: Yes, it is the intention of our clients to comply in every respect with the requirements of the zoning ordinance and the resolution, and it is a continuing discipline on the part of the Town.

BY MR. FLORENCE:

- Q. Now, as I understand, Mr. McPhee, the area to be served by the waste water disposal plant is larger than the area to be serviced by the water supply to the extent of an additional area to the north of the area in the application.
- A. The area served by the waste water facility report would include the possible subdivision to the north.
- Q. All right. And was that additional area brought to your attention by the County or by whom?
- A. By the developer.
- Q. I'm sorry?

- A. By the developer.
- Q. And is it your judgment that that additional subdivision can be handled as well?
- A. It is.
- Q. Now, directing your attention, if I may -- oh, let me take you back to that. That development, is that development of a similar style and type that we're referring to in this application?
- A. It is my understanding that it isn't.
- Q. Have you used the same construction figures that you were using per household in the --
- A. No.
- Q. -- existing application for that subdivision?
- A. The same unit consumption per capita, but the density as far as the household is different.
- Q. would it be true to characterize the stream which is known as the unnamed stream and which we do not presently have on our wall but which came down to the east -- isn't it just as equally possible to have placed a sewage disposal plant effluent into that stream as well as any of the other two streams?

 You use the word "possible"?

THOMAS

Q. Yes.

- Q. Now, you did mention that the reason you had indicated -- if I recapitulate things erroneously, please don't hesitate to stop me, but you said one of the reasons you wanted to have the plant near the Brown Brook drainage area, to put it other places would require you to pump uphill, and if the pumps failed, then the sewage would be all over this property or the malfunction would be a backup. Is that correct?
- A. That is correct.
- Q. All right. Whereas, if you had it here, malfunction would result in what?
- A. There would be no malfunction of pumping since there is no pumping.
- Q. Well, is there not going to be --
- A. There is pumping on the Plum Brook side.
- Q. And you would be pumping on this side if the houses are on this side of the ridge (indicating), isn't that true?
- A. I don't believe there is any residential development plan on that side of the ridge. I am not sure.
- Q. Well, is it your judgment if it were, they would have to pump over?

- A. Certainly.
- Q. Is it your judgment they should not have any?
- A. No, I'll correct that statement. I think in the areas as delineated as nature areas, and so forth, on the side of the hill, that you could bring the sewage from that side of the slope around by gravity to the treatment plant without pumping.
- Q. Right, if it can go that way, then can it go the other?

 In other words, we have 250-foot elevation somewhere
 on the parcel owned by the applicant in the eastern
 side of the area subject to this application near
 Route 202 which is 250 feet, and we have substantial
 areas that are up to 300 feet higher than that
 throughout. Is that correct?
- A. Well, now, you've asked me two questions. Which one do you want me to answer first?
- Q. Both of them, if you can, sorting them out.
- A. Your first question, the answer would be no. The second question you will have to repeat because I was concentrating on the first question when you were speaking.
- Q. All right It's not possible to have the sewage plant or the waste water treatment plant on the

unnamed stream?

- A. I answered that question before --
- Q. Now, wait a minute, I'm sorry. I misspoke.

 You said that your engineering judgment was that
 it should not be over there.
- A. I didn't say that today. I did in a prior judgment, prior testimony.
- Q. Prior testimony. The reason being that it services a lesser area?
- A. Now, wait a minute, Back up a little. You are jumping from pillar to post.
- Q. All right. I want to go from the -- for the reason for your engineering judgment not to have it on the unnamed stream.
- A. The reason for the underlying judgment was actually two or three different reasons: The size of the stream, one; quality of the stream, two; and the problems associated in getting the sewage to that area.
- Q. All right. As to the size of the stream, is it any different in size than the Brown Brook?
- A. Considerably smaller.
- Q. And you have measurements, or do you not know, or is this just an observation that you've taken from any

PAULINE E. WILLIMAN

ERTHAPO SPERTHAND REPORTERS

reports that you have?

- A. At the point where the sewage treatment plant would be located, it would have a very small drainage area.
- Q. And how about the flow?
- A. The flow? The flow would be again an intermittent stream.
- Q. The same as Brown Brook?
- A. Same as Brown Brook.
- Q. Any different from the flow up the two streams, to your knowledge?
- A. The total flow, annual flow, out of Brown Brook would be greater than the annual flow out of Question Mark Brook.
- Q. All right. Now, the third thing dealt with the pumping.
- A. That's right.
- Q. Your third objection, and that would be the pumping -the requirement of pumping. Now, would the same
 objection be outstanding against the use of the Plum
 Brook as the stream to receive the sewage effluent -that might be redundant -- the waste water effluent?
- A . I don't really understand what your question is.
- Q. All right. You also have a tributary to the Plum Brook

PAULINE ENVILLIMAN

THOM

on the far western side of this parcel, a portion of which is drained into the tributary to the Plum Brook. Now, the question is what are the objections, or what are your engineering objections to the placement of the plant in that area or in an area which would drain and permit drainage into the Plum Brook tributary?

- A. Actually the same as for Question Mark Brook.
- Q. Notwithstanding the fact that there are no existing residences in the area drained by either of those two tributaries.
- A. State it again.

MR. FLORENCE: Notwithstanding -would you read the question again, please?

(The pending question was read by the reporter.)

BY MR. FLORENCE:

- Q. The applicant's property.
- A. I still don't understand the question. I think I know what you're driving at, but when you say no residences in the area, drained by --
- Q. In the area where you have -- if you're talking

 about the entire drainage area, certainly there are

residences along as there are in Question Mark

Brook. There is actually one residence directly

below the point. I believe it's referred to as the

Stone House. There is another residence on the other

side of 202-100 several residences.

(Continued on page 661)

- Q. Down here (indicating).
- A. No, up further, all along. That's on the east slope.
- Q. I see. And directing your attention to the control of failure, as I understand it, if there's a failure in the present plant, that that failure will be manifested directly onto parcels other than the applicant's.
- A. It flows downhill. If the failure results in a decreasing efficiency, yes.
- Q. All right. Assume for a moment in the hypothetical of decreasing efficiency for failure to change the sludge, or whatever, and as I understand the scheme, you are going to take a pipe and you are going to run it from the discharge of the plant down to the edge of the applicant's property and deposit it on the south side of Route 202 on New York State property which would then flow directly into a Firemen's Pond and thereafter into marshland.
- A. That is correct. That's the plan.
- Q. All right. Now, what provision have you made for the contingency of failure for the treatment of any of the water that would be discharged not fully treated

as you have indicated it's possible to treat it.

I can answer that question, but it's been answered,

I think, at least three times in prior testimony.

Re-answer it?

MR. DICKERSON: Yes.

- As I explained, the plant is divided into three modules. All of the mechanical equipment has backup equipment. For power failure there is a standby generator, so it approaches, I think, as I stated before -- I would not call it a fail-safe design, but it certainly approaches one.
- Q. I think that begged my question, if I may characterize it. Now, I'll ask you, if you can, what provisions have you made for the treatment following --

MR. DICKERSON: Mr. Florence, I don't want to interrupt, but let's get to the point. Are you trying to phrase his question in total failure of the treatment plant or partial breakdown? I think the record is sufficiently clear on partial breakdown.

MR. FLORENCE: Either of the two conditions would be a response to my question.

MR. DICKERSON: And the record is sufficiently clear on partial breakdowns at or above

THOMAS P FOLE

the treatment plant.

BY MR. FLORENCE:

- Q. As I understand it, you have to trespass, almost, to get to the water that you've discharged that's not working -- that hasn't been treated. That's the point of the question. Isn't that correct?

 You're not treating it on your own property?
- A. No, sir, that's not correct.
- Q. Explain to me how you can treat the water which has come downstream following a failure, either total or partial, which I presume would be loaded with coliform.

MR. DICKERSON: Failure of what?

BY MR. FLORENCE:

- Q. Failure of the plant to function as it has been suggested for either of two reasons, either power failure, either man-made failure, for failure to change, for example, these beds, or whatever they're called where the water, the effluent, runs through --
- A. That's not man. Man has nothing to do with it.
- Q. How do they get changed?
- A. Automatically.
- Q. The change is automatic?

- A. That's ri
- Q. Yow, where does it go?
- A. Where does what go?
- Q. The sludge that you've accumulated in this waste water treatment facility.
- A. Sludge that is accumulated in the treatment of the waste is stored on the site. It is digested sludge. It is chemically treated and dewatered on the site and used on the site as the augmentation to compost.
- Q. You are telling me it's not possible for there to be a partial or total failure?
- A. No, I don't think a total failure is possible.

 There's too many items of treatment, too many steps, too many unit processes.
- Q. Isn't it easier to manage sewage which has a higher coliform count than you find desirable, to treat that water, discharge, on your own premises, on your own property rather than on someone else's?
- A . .I don't want to get back into what I fell into in the last two or three days --
- Q. I wouldn't want you to fall in.
- A. -- beginning to lecture, but I think the use of the coliforms is perhaps misleading. The coliform

organisms in this plant are destroyed by disinfection, which is only the list unit process. If all of the processes break down, you still have disinfection facilities. You can destroy a magnitude of coliforms.

- Q. How?
- A. By disinfection, chlorination.
- Q. And you do that at what place?
- A. The last unit operation.
- Q. You do it in the plant itself?
- A. In the plant.
- Q. And what about the water that has already been discharged where it became obvious that there is a partial or total breakdown of the process?
- A. Well, actually --
- Q. You don't do anything with that?

MR. BLASI: It's already been answered forty times.

an awful lot of words back in the record, and after reading the six hundred some pages, of which a good portion were mine, I feel that I've said perhaps too much in lecturing, but the water flows by gravity to a holding tank. At the entrance to the holding

tank, chlorine is admitted automatically. A residual to chlorine is maintained on the outlet of that tank. As long as there is a residual, then you have your disinfection.

BY MR. FLORENCE:

- Q. What is it that causes the chlorine to come into, say, at greater proportions or lesser proportions?
- A. It's proportional to the flow.
- Q. To the flow?
- A. You maintain so many pounds per million gallons as a feed rate.
- Q. Isn't it true, though, that what is commonly done
 in a plant breakdown is what you do is you go out
 and you drop massive doses of chlorine into the body
 of water which is the carrying body which has presumably
 been somewhat polluted as manifested by higher
 coliform counts as well as other evidences of the
 failure of the plant?
- A. I don't think the State of New York would permit it.
- Q. All right. Try to answer the question if you can.

 Isn't that what you do?
- A. You said isn't that normally what you do? I answered the question. I believe the State won't permit it.

I believe the stream -- it is classified as a trout stream? I am not sure.

- Q. Yes, sir.
- A. Trout and chlorine just don't get along.
- Q. Is it your testimony that a person who has a chlorine malfunction would ask the State what to do?
- A. Many times the State will tell him what to do.
- Q. Now, is it good and sound engineering practice to have the deposit of the waste water as well as the deposit of whatever runoff go into one of three streams that are on the property?
- A. State that question again.
- Q. Yeah, O.K. We were talking about waste water before, now, right?
- A. We've been jumping back and forth.
- Q. In addition to that, you also have storm drainage water, do you not?
- A. We have the normal runoff.
- Q. Yeah. Now, what you're going to do, you are going to add that to the same stream, are you not?
- A. The stream carries the runoff. I'm not adding it.

 It's there already.
- Q. Well, didn't you tell us earlier that you diminished

the value of the property by improving it, by paving the roads, by putting houses in it, by gathering and changing the contour, in gathering the water?

- A. Diminish the property in what way?
- Q. Diminish the potential for the property to absorb natural runoff now, that in fact -- I'll withdraw that "in fact".
- A. I don't think I ever made that statement.
- Q. Do you disagree with that proposition?
- A. I couldn't answer your question without actually examining that soil and going over the cover on the soil as to the nature of the soil, how much green cover, how many trees and so forth. Cultivated land has a much greater capacity to actually absorb water than uncultivated land.
- Q. Is it your testimony in this case that you don't have a judgment whether there will be more or less runoff?
- A. I could not make a judgment at this point.
- Q. Is it sound engineering practice to put the runoff in addition to the sewage treatment effluent in the largest basin, the stream that receives the largest

- drainage of the area covered by this application?
- A. I'm not putting the runoff. God is putting the runoff there. He let it rain, and I have no control over it.
- Q. I beg to differ with you.

MR. DICKERSON: You're missing the point of his question. If you had your druthers, if I can speak bluntly, if you have three streams, A, B, and C, A being the largest, which one would you dump your stuff in?

THE WITNESS: The largest one. I've been saying that all along as one of the conditions, at least for three days.

MR. DICKERSON: I want to make it perfectly clear.

BY MR. FLORENCE:

- Q. I thought in your testimony you had already indicated that there was a certain area, number of acres, that served as a drainage basin, that this Brown Brook served as a drainage basin.
- A. Yes, I believe it's marked in one of the reports as so many square miles.
- Q. And further than that, you indicated this --

- A. 2.5 square miles.
- Q. You indicated further that based on that, there would be a certain amount of rainfall that would cover the downland property or the lower river property. Is that correct, downstream?
- A. State that again. I don't think --

(Continued on page 671)

MR. FLORENCE: (Cont'g.) Can you make a judgment as to the runoff of the -- the effect of the runoff in this drainage basin on the Brown Brook and the downstream property?

THE WITNESS: I believe it's a calculation written in the Waste Water Facility Report that does that.

BY MR. FLORENCE:

- Q. Isn't that one of your judgments?
 - A. If you want to call it a judgment. It's an engineering calculation based on certain norms.
 - Q. Well, you're not putting your name to a report that you don't say is so or facts that you're just guessing about?
 - A. Well, if you want to refer to Appendix C and read it, it will indicate where the judgment and the norms that were used are. The analysis says "Assumes a rainfall intensity of two inches per hour" and it assumes a runoff coefficient of three-tenths and for 1,600 acres you're going to have 960 cfs. judgment, calculation, I don't know what you'd want to call it.
 - Q. Based on your hypothesis and your series of

ago, that the runoff was there before.

hypotheses, in other words, there would, in fact, as an issue in some of the factors, be some runoff into the Brown Brook, more or less, but you don't know?

A. I've stated I think at least five or 15 minutes

- Q. I'm asking --
 - A. No, no, let me finish and I think I can clarify
 it. I think that what you're driving at, I said I
 also could not pass judgment as to whether the
 development would increase the runoff or decrease it.
 Now, how can I answer your question?
- Q. You just did. Now, with respect to Appendix A of Exhibit No. 21?

MR. DICKERSON: That one? That's 21.

- Q. (Cont'g.) Would you define for me your understanding of the policy of the Department to prohibit discharge into intermittent streams and the clause that I'd like to ask you to tell me what is involved is "except in extreme conditions." What are "extreme conditions?"
 - A. I think if you'll read the testimony, I answered that question at least 20 minutes ago. You asked the same question.

MR. BLASI: You asked it, asked it

before.

- Q. What was your answer 20 minutes ago?
 A. Read it from the testimony. I can't recall the exact words. It's in there. You asked the first
- Q. I asked it in this respect --
 - A. You said what did it include?

question, your first question.

Q. I asked it: Did it include economic, did it include ecological --

MR. DICKERSON: And he said both.

- A. I said they're both in there.
- Q. Now, what other factors are involved other than economic or ecological?
 - A. You'll have to ask the State of New York. I didn't write Mr. Eastman's letter.
- Q. I'm asking you what this extreme situations means to you as an engineer?
 - A. As an engineer, it would be both ecological and economic.
- Q. Now, with respect to the economics, can you delineate

 it any further than just economics? What does that

 mean as interpreted -- as applied to this application?

- A. I don't think I'm in a position to answer that.
- MR. DICKERSON: I think that point has been answered.
- Q. All right. What ecological -- what ecological considerations do you have in mind in this particular application?
 - A. The cologi al conditions that you would have to be concerned with would be that if you had a situation where a development was taking place and the soil was incompatible with an individual disposal unit and you had to treat the sewage on an intermittent stream, that is your ecological condition.
- Q. Any other factors than the makeup of the soil itself?

 A. That would be -- that would be the principal one from an ecological standpoint. Either/or, what choice do you have? You either discharge to the stream or you put it on the soil, one or the other.
- Q. Are there any dis... are there any soil tests in the area of where the present plant is?
 - A. Only at -- only in the area of the model homes.

MR. FLORENCE: Oh. I haven't any further questions at this time.

MR. DICKERSON: Thank you. Mrs. Saia?

(There was no response.)

Dr. Port?

(There was no response.)

Any representative from New York City

here today?

(There was no response.)

Mr. or Mrs. Bahret?

(There was no response.)

Mr. Mally?

(There was no response.)

Mr. Cehler?

(There was no response.)

Mrs. Daly?

BY MRS. DALY:

- Q. A short while ago you, in answer to one of Mr.

 Florence's questions, you said you had problems regarding locating the sewage treatment plant in other areas?
 - A. Yes, we discussed the reason why we located it on Brown Brook.
- Q. And one of them was an economical reason, is that it?

 A. No, economics did not come into it, no.
- Q. Well, in reaching your decision on the proposed

location of the plant, did it ever enter your mind that those of us who live in that area have been living there for a long time and that we will suffer tremendously economically? I mean some of the people that are now working on this project never even heard of Somers previously?

- A. That is not an engineering problem. That is one that has to be --
- Q. What, regarding location?
 - A. No, one regarding the effect on the adjacent house owners. This becomes one of the town officials' in approving the project, the State Health Department, the County Health Department, as far as protecting the rights of these people. It's really not an engineering problem.
- Q. In answer to another question of Mr. Florence, I believe you made a statement that you thought the soil was very porous in the area approximately abutting my property?
 - A. I don't think I made that statement.
- Q. Just about -- just about three, four minutes ago.

 I thought he was referring to the drainage?

couldn't pass judgment on the coefficient of runoif for the area since I was not familiar with the types of soil throughout the entire area or the cover on the soil.

- Q. No, but later on, I thought he posed another question.
 A. He asked a question --
- Q. And I thought you gave an answer that you thought the soil was fairly porous there?
 - A. No, the only area I said that was examined for ability to construct individual disposal units was in the area of the model homes.
- Q. Well, the point I'm trying to get across, you have tested soils, I have seen the soil test map, on soil belonging to the Heritage Hills parcel. Did you ever test any soils, seek permission to test soils on the abutters' property?

A. Not to my knowledge.

Q. Well, wouldn't it be a logical conclusion that in many areas where you did find poor soil conditions, and I think one of the areas is immediately in back of our property, wouldn't it be quite logical to assume that the soil on my property would be comparable to the poor quality of the soil on the other side of

the stone wall?

A. Well, since I didn't test the soil I can't state that it was poor quality and, therefore, I wouldn't be able to answer your question.

5-2-1

- Q. Well, is that within your province to test?
 - A. Not as far as the soil mechanics are concerned.

 When you're talking foundation, what -- the tests we ran for Heritage was actually for obtaining permits for the construction of the model homes since the model homes are being built before the sewage treatment plant is approved, and the only way they can be built is to have permits that will permit individual septic fields for them.
- Q. I don't know. I'm sort of stymied. I don't know how to pose my question. Because of the change in the runoff after artificial surfaces are placed on the hill, wherever poor soil conditions exist, it's certainly going to have a great effect on the land today?
 - A. Mrs. Daly, I answered five minutes ago --
- Q. Do you get my point?
 - A. I see what you're driving at but my answer, I don't know, and I can't state for a fact one way or

the other whether runoff will increase or decrease by the construction of ponds, the construction of golf courses, the planting and grassing of certain areas. We actually may decrease the runoff coefficient. Then again, we might increase it because of what you say, the paving of areas, the roof areas and the parking areas.

Q. Well, there is no lake in back of my property so I can't see where the runoff would be diminished.
A. Well, I --

MR. DICKERSON: I think what -- Mr. McPhee, if I can interrupt, I think what Mr. McPhee is getting at is that you have the natural area that is there now.

MRS. DALY: Yes.

MR. DICKERSON: If you put in pavement, you're going to increase the runoff. If you
put in a golf course you're going to decrease it and
which is going to be bigger, the increase or the decmase, is not available at this time. I want to
allow you to continue to question but your main
interest is the effect on your property.

MRS. DALY: Right.

MR. DICKERSON: Due to increased

runoff.

MRS. DALY: Right.

MR. DICKERSON: O.K.

MRS. DALY: Plus the road which is at quite a high elevation immediately --

MR. DICKERSON: And I think that we're still going to get this from Mr. Bibbo.

MR. BLASI: Bibbo, right.

MR. DICKERSON: This was a question that you brought up at the last day at the last part of the hearing. We still haven't gotten Mr. Bibbo yet.

MRS. DALY: No, but I mean as far as the -- the soil quality is concerned, I mean that's within his province, isn't it?

THE WITNESS: Not really.

MR. DICKERSON: He said only to a

limited extent. They just tested at one point.

MRS. DALY: As far as --

MR. DICKERSON: And other than that, he

can't say.

MRS. DALY: As far as Heritage Hills

is concerned --

MR. DICKERSON: Not for the whole property, just for one point of it. I still think Mr. Bibbo will be handling the general discussion of that point, the total runoff from the whole property in this area.

MRS. DALY: What do you mean he will be handling it? What do you mean? Can we get answers now at this meeting?

MR. DICKERSON: Not from -- at this meeting, but it would be better to get them from Mr. Bibbo.

MRS. DALY: That's what I mean, we can?

MR. DICKERSON: If not, I'll step in at that point and see if we can't get them. But I do believe that this is the area that he is going to testify to. Mr. McPhee indicated they made several very small tests in the area of the model homes and that's all. That's only good for that area. It doesn't say anything about the rest of the property. He says that he cannot answer any other questions about the soils in the rest of the property.

MRS. DALY: Well, my being a novice,

I have a problem distinguishing them --

MR. DICKERSON: No, we're trying -- we're trying to handle that if we can.

MRS. DALY: No, I mean I might be questioning Mr. Bibbo only to find out that that's a question that I should have asked --

MR. DICKERSON: I will take steps to insure your questions are answered insofar as we can and --

MRS. DALY: Oh, thank you very much.

MR. DICKERSON: And I'm sure Mr. McPhee

won't leave town.

MR. BLASI: He has a large family.

MR. DICKERSON: Any further questions

of Mr. McPhee?

(Mrs. Daly shakes head.)

MR. DICKERSON: Thank you. Miss

Eustace?

(There was no response.)

Mrs. Rauch?

(There was no response.)

Mrs. Nardelli?

(There was no response.)

Mrs. Goldman?

(There was no response.)

Mrs. Robertin?

(There was no response.)

MR. DICKERSON: O.K. Mr. McPhee, I'm going to use a shotgun on this just to pick up a few loose ends. Some of this may be in the documents. The cost of the water system is approximately \$1 million plus, as I recall. Do you know the exact figure?

THE WITNESS: I don't know. I believe it's in the testimony that I gave you the first day.

Let's see, \$1,750,000.

MR. DICKERSON: Cost of the sewage system?

THE WITNESS: Treatment facilities alone approximately a million dollars.

MR. DICKERSON: And the rest of it, collection?

THE WITNESS: It hasn't actually been detailed to the point of an estimate. I would guess at least another million dollars.

MR. DICKERSON: Thank you. I guess a total of two to two and a half would be valid for the total sewer system?

THE WITNESS: Two to two and a half.

MR. DICKERSON: Would wrap it?

THE WITNESS: That would do it.

MR. DICKERSON: 0.K. Thank you. You mentioned during your testimony about the use of the sludge as an aid in composting and that ultimately it would be totally oxidized at the site.

THE WITNESS: Right.

MR. DICKERSON: By what process?

THE WITNESS: In this case it would probably be a fluid bed oxidation unit.

MR. DICKERSON: Do you have any idea of -- with reference to Exhibit 29, the number of septic tanks or possible sources of pollution in the area tributary to the aquifer?

THE WITNESS: Not without counting the spots on this map.

MR. DICKERSON: Well, ballpark -- well, O.K., I'll back this off. Are there any within onehalf mile of the aquifer? THE WITNESS: Yes.

MR. DICKERSON: Any within a quarter of a mile of the squifer?

THE WITNESS: The Scone House is downstream. That is the closest and then there is one residence directly opposite the well field on the side of the hill approximately the same distance. I would say a quarter of a mile.

MR. DICKERSON: And it's on the opposite side of the Route 202?

THE WITNESS: Somerstown Pike, yes.

MR. DICKERSON: O.K. While we're discussing the well field, Exhibit 31, your plot of the drawdown curves, and what are the elevations or do you have the data of the elevations of the three different wells? Are they --

THE WITNESS: It's up on the left-hand side of the plot.

MR. DICKERSON: Elevation, O.K. Let me check them. Excuse me for a minute, please.

THE WITNESS: They're all within about three feet of one another. No. 3 is 331.

MR. DICKERSON: I've got it, thank

you.

THE WITNESS: O.K. 331 is not U.S.G.S.

datum.

MR. DICKERSON: Which --

THE WITNESS: That U.S.G.S. is 90 --

Leonard, do you know? What's the difference between--

MR. BIBBO: 117.

THE WITNESS: 117.

MR. KIPP: Higher or lower?

THE WITNESS: U.S.G.S. is lower by

117.

MR. DICKERSON: Well, are the elevations indicated on Exhibit 31 all from the same datum?

THE WITNESS: All from the same datum.

MR. DICKERSON: Now, let me just clarify a few issues on Exhibit 5 of the Water Supply Report. The pumping test on Well No. 1 indicates a pumping level on the second page of 28 feet 5 inches at 8:00 A.M. on the 20th and this remains stable until the completion of the test for a period of approximately 24 hours on Well No. 1.

THE WITNESS: Greater than that.

MR. DICKERSON: 8:00 A.M., 8:00 A.M.

THE WITNESS: 8:00 A.M. to 8:00 P.M.

so it would be actually 36 hours.

MR. DICKERSON: 36 hours. Well No. 2,

8:15 -- from 8:15 on the 20th --

THE WITNESS: Again 36 hours.

MR. DICKERSON: 36 hours. And ap-

proximately eight hours on Well No. 3?

THE WITNESS: Correct.

MR. DICKERSON: For the stabilization.

THE WITNESS: M-m h-m-m.

MR. DICKERSON: Do you have any data available -- let me rephrase that. Were the wells pumped individually?

THE WITNESS: They were pumped --

actually --

MR. DICKERSON: Prior to this test.

THE WITNESS: 24-hour pumps.

MR. DICKERSON: Individually?

THE WITNESS: Not all of them. There

was only one of them that was pumped 24 hours.

MR. DICKERSON: Well, before the

simultaneous pumping test of all three of them, was

6-1

there any data available on the characteristics of each individual well?

THE WITNESS: Yes -- not on each individual. I don't think all three wells were pumped.

MR. DICKERSON: Could you give me what you have on the individual ones, please?

THE WITNESS: Could we take a few minutes for me to dig?

MR. DICKERSON: I think this might be appropriate for a five-minute break or so.

(A short recess was taken.)

MR. DICKERSON: Ladies and gentlemen,
I didn't mean to break things up, but let's wrap up a
few loose ends and go off to a good lunch.

Mr. McPhee, the first question was on the pump test of single wells prior to this simultaneous pumping. Did you have any data on that?

THE WITNESS: Yes, we do. We have a single test on Well No. 3 for 24 hours, and we're having copies made of it. I just have a single copy with me.

MR. DICKERSON: O.K. It was a 24-hour

pump test?

THE WITNESS: 24-hour.

MR. DICKERSON: And could you tell me the drawdown? That's all I really want to know.

THE WITNESS: He's got the papers
out in the hall right now copying them on the copy
machine.

MR. DICKERSON: Well, O.K. We'll yield on that for a minute. With respect to Exhibit 4, could you tell me the distances between Wells 1, 2 and 3 as shown on Exhibit 4? Use that as a reference.

THE WITNESS: Yeah. Well, I'll have to look at the survey map that actually ties them together.

MR. DICKERSON: I think Exhibit 4 was the one with the funny numbers.

THE WITNESS: Yeah, that's -- between 1 and 2 on that map is 359 feet, and between 2 and 3 on that map is 1,200 feet.

MR. DICKERSON: And all three wells are still -- all three casings are still in the ground?

THE WITNESS: No, one casing had been

pulled.

MR. DICKERSON: Which one has been

pulled?

THE WITNESS: No. 1.

MR. DICKERSON: The northernmost?

THE WITNESS: The northernmost.

MR. DICKERSON: O.K.

MR. FLORENCE: You say the casing on

Well No. 1 was removed? Is that what I understood?

MR. DICKERSON: The northernmost well,

right.

MR. BLASI: We had a little problem with the numbers.

MR. DICKERSON: The distances between the wells as marked on Exhibit 4, using the numbers on Exhibit 4, between 1 and 2 is 359 feet, and between 2 and 3 we're 1,200 feet, and the casing on the northernmost well is the one that's been removed.

Were any observations taken in Wells
No. 1 or 2 when 3 was pumped singly?

THE WITNESS: I'd have to go back and check the data. That was done in November on Well

No. 3.

MR. DICKERSON: Is that the --

THE WITNESS: Now, before I give this to you, I think I'm going to have to make sure that what he is referring to as Well No. 3 is Well No. 3 and Site No. 2.

MR. DICKERSON: O.K. I'll leave that for after lunch.

THE WITNESS: It has to be, because it's a 300-gallon-per-minute --

MR. FLORENCE: I's only one that drew

over 300?

THE WITNESS: Yeah, was No. 3, for

No. 3 --

MR. DICKERSON: 24-hour pump test, had

a drawdown of --

THE WITNESS: We started off at 9:05

A.M., 1,459 minutes.

MR. FLORENCE: I'm sorry.

THE WITNESS: 6.19 feet.

MR. DICKERSON: On a 24-hour pump test,

1,459 minutes --

THE WITNESS: 57 minutes.

MR. DICKERSON: 57 minutes, Well No. 3

had a drawdown of 6.9 feet?

THE WITNESS: 6.19 feet.

MR. DICKERSON: When pumped by itself.

THE WITNESS: By itself.

MR. DICKERSON: And you don't have any information as to any drawdowns in 1 and 2 at the same time?

THE WITNESS: No, this is the only one we have as a separate test.

MR. DICKERSON: Thank you.

MR. FLORENCE: Wouldn't it be proper to mark that for identification?

MR. DICKERSON: Well, I was mainly interested in an estimate of drawdown. Do you still want to check it?

THE WITNESS: I would like to check it.

MR. DICKERSON: O.K., let's leave that

open.

THE WITNESS: I'm not sure -- see,
it's a typed copy from Lauman, and it doesn't define
it. It says Site No. 2, which is the site that -Lauman referred to that area as Site No. 2, but I've

7-1-1

got to check.

MR.DICKERSON: When the exact location is confirmed, I'll ask for that as an exhibit. Now, in Exhibit 5 and also in Exhibit 31, you give dimensions on the aquifer. You refer to the aquifer as a ribbon-shaped aquifer. Was this determined on borings?

THE WITNESS: Yes.

MR. DICKERSON: Or do you have any detail on how this was determined?

THE WITNESS: Yes. The exploration consisted of moving the leg in and going along the western periphery of the flat area and the marsh area to see whether there was any sand or gravel in that area. We delineated a limitation of where rock was close to the surface. Then we moved into the deeper wells. We also did it on the -- which would be the southwest end of the aquifer, a line of wells, to again locate the gravel area but there was not-- there was not a complete profiling across the area.

MR. DICKERSON: The line of wells to the southwest, did that indicate the presence of the aquifer?

THE WITNESS: It indicated the end of

the aquifer. It was -- the ribbon narrowed down at that point.

MR. DICKERSON: You had a choking then in effect of the ribbon?

THE WITNESS: A choking which was to be expected. It was the end of the aquifer.

MR. DICKERSON: But you do not know if the aquifer extends southwesterly under the vicinity of what is referred to on Exhibit 23 as St. Joseph's Cemetery?

THE WITNESS: From the obser... from the exploratory holes that were put down, a line of holes approximately six holes coming off as a straight line off of the Somerstown Pike right across the valley at about the center of the six holes, we found the sand and gravel. On the other six holes, rock was coming up on both sides so it appears that the buried valley was narrowing and choking at that point. Now, how far the ribbon extended beyond that point we did not explore. The ground rises quite rapidly from that point to the southwest.

MR. DICKERSON: How deep were the

sands and gravels at that point, do you recall?

THE WITNESS: No, that would be on Well No. 3 on your exhibit.

MR. DICKERSON: O.K. Thank you.

THE WITNESS: Well No. --

MR. DICKERSON: Two more questions on the wells and we'll drop the subject. Fishibit No. 5, you indicate that the combined yield of the wells when pumped together was 731 gallons a minute.

MR. FLORENCE: What was that?

MR. DICKERSON: On page 5 of Exhibit 5 indicated the combined yield of the wells, just adding the --

THE WITNESS: The three together?

MR. FLORENCE: The combined drawdown.

MR. DICKERSON: The combined pumping

rates of 731 gallons a minute.

THE WITNESS: Withdrawal rate.

MR. FLORENCE: O.K.

THE WITNESS: And there was an indication that the -- I use it in quotes "safe yield" was approximately 550 gallons a minute, is that correct? I'm trying to find it here. No, in the water supply report the -using the state's criteria of half would indicate
that they would allow the developer to go to 365 but
in a further discussion with Mr. Faustel, he indicated that we were actually applying standards to a
very rigid degree and that actually a greater amount
of water would be allowed out of the aquifer. So in
my direct testimony we indicated that the average -annual average -- would be 425 and the peak day of
the year based on experience would be 546 and, therefore, we were asking in this case in direct testimony
for the average annual 425. It's pumped -- if it is
pumped to installation capacity it is equal to 526.

MR. DICKERSON: 0.K. You cleared up that point. Thank you.

You mentioned, referring to Exhibit 23 where you've outlined the aquifer area or approximate area --

THE WITNESS: M-m h-m-m, yes.

MR. DICKERSON: -- that the area

appeared to be -- the aquifer appeared to be supplied by peripheral recharge?

THE WITNESS: That is correct.

MR. DICKERSON: Especially along the western border?

THE WITNESS: Especially along the western border.

MR. DICKERSON: What is this based on, the drilling logs, the springs at the junction of the marsh and the hillside or what?

or -- well, one stream that comes down, the waters flowing in the gravel above the stream. As to how far up the side of the hill it comes out of the side of the hill, I didn't explore. The pond has a continuous flow out of it, I would guess, at somewhere in the order of magnitude between 100 and 200 gallons a minute. The ponds were -- is very shallow -- the pond was created when a road was put across the swampy area and created a dike so the pond cannot be more than a couple of feet deep at its deepest point.

MR. DICKERSON: Is that pond indicated on Exhibit 23; is that the pond at the top of the hill or another one?

THE WITNESS: There is a pond --

actually, this map does not show the road. The pond was created after.

MR. DICKERSON: In the marsh area?

THE WITNESS: In the marsh area by
putting an access road just about where Well No. 2
is or Well No. 1 is. Actually, Well No. 1 was on the
edge of this access road.

MR. DICKERSON: Are there any springs, to your knowledge, along the toe of the slope in this area as outlined in red on Exhibit 23?

THE WITNESS: Whether it would be classified as a spring or actually water coming out of the Summit Lake which is following the stone bed of the stream down --

MR. DICKERSON: O.K.

THE WITNESS: -- is the only one that is evident.

MR. DICKERSON: Do the borings show that the gravels abut or lie next to the bedrock on the western edge of this aquifer?

THE WITNESS: We did not explore it to that degree. The exploration along the edge indicated an overburden of maybe six to seven feet of glacial till and loam over rock.

MR. DICKERSON: O.K. The last question: Have you explored with the New York State Department of Transportation their views or requirements on installing the sewage effluent discharge structure in the state right-of-way?

THE WITNESS: I believe an application is in the process.

MR. DICKERSON: All right. It has not been approved yet?

THE WITNESS: Has not been approved.

MR. DICKERSON: Does that application also include the right of easement to the state right-of-way to the pipe?

THE WITNESS: That is right.

MR. DICKERSON: But the matter is pending at this time?

THE WITNESS: The matter is pending.

MR. DICKERSON: With the exception of awaiting data on the single pump test on Well No. 3, you're excused. Thank you.

THE WITNESS: Thank you.

MRS. DALY: May I ask a question?

MR. DICKERSON: Generally what?

Normally, we wouldn't, but what's --

MRS. DALY: Well, much has been said about the backup equipment for the sewage treatmer plant in case of partial or total failure. I would like to know just exactly what the size of that or the capacity of the backup equipment is?

MR. DICKERSON: Do you want to answer the question simply? I'm sure it's in the record.

THE WITNESS: Why, sure. If we have two pieces of equipment, the backup equipment is equivalent to each piece of equipment. Therefore, you'll have a 50 percent of the total or a 100 percent backup of each piece of equipment. If it happens to be three pieces of equipment, the same thing holds. The spare piece of equipment would be ivalent to the other pieces of equipment.

MR. DICKERSON: He's got a 100 percent backup.

THE WITNESS: A 100 percent backup.

MRS. DALY: Can I ask another question?

Is it true that Greenbriar Estates will be using the sewage treatment facilities of Heritage Hills for

their sewage?

THE WITNESS: That is planned, yes.

MRS. DALY: Pardon?

THE WITNESS: That is planned. There is no agreement, I understand, between them.

MRS. DALY: Well, it's -- I mean since nothing of that nature has been discussed in the past, is the plant sufficient to take care of all that additional?

THE WITNESS: Yes.

MR. DICKERSON: Do you -- they have stated previously that the plant was designed to include -- to have a capability of treating both the sewage from Heritage Hills and the estates to the north.

MRS. DALY: And was that submitted to the Department of Health?

MR. DICKERSON: It's all in the papers here.

MRS. DALY: Oh, I see.

MR. DICKERSON: 700-plus thousand gallons per day sewage capacity includes both, both projects.

MRS. DALY: I must have been absent

that day. Thank you.

excused.

MR. DICKERSON: Mr. McPhee, you're

(Whereupon, the witness was excused.)

MR. DICKERSON: Ladies and gentlemen,

I think it would be a good time to take a break for lunch. Let's resume at 1:15.

(Whereupon, at 12:10 P.M. a luncheon recess was taken until 1:15 P.M.)

AFTERNOON SESSION

MR. DICKERSON: Ladies and gentlemen, before we resume with Mr. Blasi's case, we'll take care of another housekeeping item. I'm going to mark for identification as an exhibit the advance copy of the northeastern portion of the Westchester County Soils Map. These are preliminary additions prepared by the Soil Conservation Service. I would have taken judicial notice of the published report, except it isn't printed yet. They did make copies available to us. I'll incorporate these two maps showing the soils as mapped in this area into this record, and along with that is the interim soils report for Putnam County which has a bearing in this proceeding only in that the same numbers designating soil types are used in this interim report as well as this photocopy, so that the numbers on the Westchester County maps here refer to the same soils as indicated by the numbers in the Putnam County Report. I think I'll find this rather helpful in analyzing the soil capabilities and aquifer in the area.

If there are no objections, I'd like

PAULINE E WILL MAN

to mark this all as Exhibit No. 32 and receive it into evidence. Is there any objections to receiving the advance copy of the Westchester Counter Soil Map and the Interim Soils Report of Putnam County, the Interim Soils Report used only for the identification of soil types by number?

MR. BLASI: There's no objection from the applicant.

MR. DICKERSON: Any other parties?
(No response.)

MR. DICKERSON: O.K. I will receive that into evidence as Exhibit No. 32.

(The advance copy of the Westchester County Soils Map and the Interim Soils Report were marked jointly as Exhibit No. 32 in evidence.)

MR. DICKERSON: Will Mr. Florence be here shortly?

MR.KIPP: Yes, I believe so.

MR. DICKERSON: Do you want to

proceed without him?

MR. KIPP: I think we can get started.

MR. DICKERSON: Mr. Blasi?

MR. BLASI: Yes, sir.

MR. DICKERSON: Press on.

MR. BLASI: Mr. Bibbo?

LEONARD BIBBO,

being called as a witness, having been first duly sworn by the Hearing Officer, was examined and testified as follows:

MR. DICKERSON: Would you please be seated? State your name and address and affiliation.

THE WITNESS: My name is Leonard Bibbo,

B-I-B-B-O. I am a consulting engineer with offices in Golden's Bridge, New York.

MR. BLASI: Is it all right, Mr.

Examiner, if I am seated?

MR. DICKERSON: Please, please, and it's getting warmer. If anybody wants to take their jackets off, please do.

DIRECT EXAMINATION

BY MR. BLASI:

- Q. Mr. Bibbo, what is your occupation?
- A I'm a Civil Engineer, licensed by the State of New York.
- Q. And when were you licensed?

- A. I believe it was 1958.
- Q. And what is your educational background?
- A. I'm a graduate of Manhattan College with a

 Bachelor in Civil Engineering, class of '53.

 May I read from the prepared statement?
- Q. State your qualifications.
- A. As I said, my education is from Manhattan College of Engineering, Class of '53. I received a degree in the Bachelor of Civil Engineering, and my professional license was received in 1958.
- Q. Now, Mr. Bibbo, why don't I just ask you a few questions, and then --

MR. BLASI: I ask first, Mr. Examiner, that these be marked for identification. It's a statement of educational/professional qualifications of Leonard Bibbo.

MR. DICKERSON: For identification,
Exhibit No. 33 will be a statement of education and
professional qualifications of Leonard J. Bibbo,
P.E.

(The statement of educational and professional qualifications was marked Exhibit No. 33 for identification.)

BY MR. BLASI:

- Q. Now, Mr. Bibbo, I show you Exhibit 33 marked for identification and ask you if I were to ask you questions relating to your qualifications, would you give me as answers the statements that are set forth in this Exhibit 33?
- A. Yes, I would.
- Q. Before I offer it in evidence, Mr. Bibbo, just a few questions. Do you reside in Somers?
- A. Yes, I do.
- Q. And how long have you resided in Somers?
- A. Twelve years.
- Q. And have you acted as engineer, formerly engineer to the Planning Board of Somers?
- A. Yes, I did.
- .Q. And you are now engineer for some other municipalities?
- A. Yes, I am.
- Q. Would you state them, please?
- A. Currently engineer to the Town of North Salem, in Westchester County, and the Town of Patterson in Putnam County.
- Q. And have you been engaged in the design of dams prior hereto?

A. Yes, sir, I have. I designed two dams for the Wild Oaks development. One was an initial submission which was approved, and there was a revised dam, a different type, that was also approved, and it's under construction. It should be fairly near completion, and I was involved in the reconstruction of Amawalk Lake North Dam, and I've done consultation on several others like the Sagamore Lake Dam in Putnam County, I believe it is, Lincoln Hall Dam, and I'm currently involved in some investigation for the rehabilitation of Putnam Lake Dam.

MR. BLASI: I now offer in evidence Exhibit 33.

MR. DICKERSON: Let Mr. Kipp's engineer take a look at it in the absence of his attorney. I don't think there will be any problem.

MR. KIPP: No problems here.

MR. DICKERSON: Exhibit 33 will be received into evidence.

(Exhibit No. 33 was received in evidence.)

BY MR. BLASI:

Q. Now, Mr. Bibbo, were you engaged by Heritage Hills of

PAULINE E WILLIMAN

THOMAS

Somers?

- A. Yes, I was.
- Q. What was the scope of your retainer?
- A. We're engaged as site design engineers.
- Q. And when were you so engaged?
- A. It would have to be somewhere in the vicinity of March '73, I believe.
- Q. And from that time on, you worked on this project as site design engineer. Is that correct?
- A. That's correct.
- Q. And what was the function of your engagement?
 Just what did you do?
- A. I have a prepared statement. May I read from that again, or --
- Q. Well, if you wish.
- A. Specifically after water and sewer lines have been designed for size, after the architects and landscape architects have positioned the dwelling units, it's our function to design the roads, the storm drainage, the water and sewer line locations, general site grading and other site facilities, and in this regard we have designed a proposed dam, a stream relocation for a portion of Brown's Brook and the location

of the outfall sewer.

- Q. Just what do you mean by the "outfall sewer"?
 What is that?
- A. This is the sewer that carries the treated effluent where it discharges to the surface, causes it to discharge in the surface waters.
- Q. Go ahead.
- A. As far as the dam is concerned, we have proposed a dam along Warren Street, and a dam evolved for the following reasons: 1. It is desired to create a pond for aesthetic purposes. 2. It is desired to effect siltation control. 3. It is desired to effect storm water control by regulating quantities of storm water runoff and allowing its controlled relief into Brown's Brook in a reasonable manner after the storm has passed. It is desired to cross Brown's Brook with a road so that the portion of the development westerly of Warren Street may have convenient access to the portion easterly of Warren Street, thereby eliminating additional traffic on Warren Street.

A subsequent study of the property showed that the natural place to accomplish all of

the above would be by construction of a pond and a dam in the vicinity of the Warren Street crossing. The area behind the dam will store approximately 7 million gallons of water from a storm frequency of once in 25 years. The dam, although 21 feet in height, will, except in case of severe storm, retain only 8 feet of normal water. The dam itself, because of the additional width required at the top to carry a road, had been computed to be 246 times safer against -- I have a sentence left out of my thing here. All right, the dam itself had been computed to be 246 times safer against overturning and 14 times safer against sliding during flood flows. The normal safety factor required for sliding and overturning is approximately 2.0. In addition, we are currently designing, because of the New York State Department of Environmental Conservation requirements, an emergency spillway capable of passing a storm equal to 150 percent of the 100-year storm. The 100-year storm is equivalent to the tremendous rains of October 16th, 1955, which caused the destruction of Warren Street and the inundation of Route 202.

THE WITNESS: (Cont'g.) Our emergency spillway will also help improve storm discharge
by causing additional storage. We have met with

DEC and are currently designing an outlet structure
in accordance with their recommendation to dissipate
flood flows and reduce channel velocities. All
elements of the design and construction of these
facilities will equal or exceed all requirements of
State Department of Environmental Conservation and
Department of Transportation.

Stream Relocation: It is proposed to relocate a portion of Brown's Brook in the vicinity of the sewage treatment plant. This will be accomplished with no interruption in stream flow. The proposed sewer line will be installed first and then a new stream channel will be formed. All this will be accomplished while the original channel is still functioning. When this work is complete, a small excavation will be made at the head end of the new channel and the waters immediately diverted. Bales of hay will have been placed in selected positions in the new channel prior to diversion to deter and prevent siltation.

bypass the Port Pond, which is a residential pond on Warren Street, and discharge the treated effluent into Brown's Brook at a point immediately south of Route 202. It is proposed to extend the existing box culvert on Route 202 and the outfall sewer will enter at one of the walls of the extended culvert.

MR. BLASI: Mr. Examiner, may I have the applications that were filed?

MR. DICKERSON: Let's go off the record for a minute.

(Discussion off the record.)

MR. DICKERSON: Let's go back on the record then.

BY MR. BLASI:

Q. Mr. Bibbo, I show you Exhibit 27 in evidence and the plans attached thereto or submitted therewith. Is that the application that was originally made, to your knowledge?

A. Yes, it is.

- Q. And these -- this is an application relating to the dam, is that correct?
 - A. That's correct.

Q. Now, Mr. Bibbo, were some changes made in the plans that were affixed to this application which is Exhibit 27 in evidence?

A. Yes, there were.

MR. DICKERSON: Would you speak up a little louder, please, so everybody can hear?

THE WITNESS: Yes, they were.

MR. BLASI: I guess we better have these marked for identification, Mr. Examiner, if I may.

MR. DICKERSON: O.K. It consists of three sheets?

MR. BLASI: Three sheets.

MR. DICKERSON: For identification,
Exhibit No. 34 consisting of three sheets are the
revised plans and details for the access drive from
Warren Street proposed pond that essentially are the
revised plans for the dam which were formerly presented as Exhibit 28-A and -B. Exhibit 34 in three
sheets then replaces Exhibit 28-A and -B, is that
what your intention is or what?

MR. BLASI: Is that correct then?
THE WITNESS: Yes.

MR. DICKERSON: Both of them will be

available.

MR. KIPP: What date is on them, Mr.

Dickerson?

MR. DICKERSON: I haven't even finished getting this done yet.

Exhibit 34 for identification are three sheets entitled "Access Drive from Warren Street and Proposed Pond" prepared by Bibbo Associates, Consulting Engineers, having the seal of Leonard J. Bibbo, Professional Engineer, with a preparation date of May 1st, '73 and indicating latest revision of September 25th, '73.

Dam at Warren Street, Access Drive" and the third sheet is entitled simply "Access Drive." All three sheets will be marked as Exhibit No. 34.

(The maps and plans consisting of three sheets described above were marked collectively for identification as Exhibit No. 34, this date.)

BY MR. BLASI:

Q. Now, Mr. Bibbo --

MR. DICKERSON: Just a minute, please.

MR. KELLY: I'd like to object to the submission of these two exhibits. They were prepared and revised after the date for which plans could be examined on the hearing, and the cutoff date I believe was September 7th.

MR. DICKERSON: I'm going to overrule the objection because more refined plans are permitted to be submitted. However, in fairness, you must be allowed an opportunity to examine them. I think we would all best be served by continuing Mr. Bibbo's examination and direct testimony on these. Before there is time for questioning, I will allow an ample break and we'll continue on that point. Your point is noted. However, I have the power to rule on that motion and I overrule it and I will specifically indicate that sufficient time will be available for a professional examination of those plans.

MR. BLASI: Mr. Bibbo --

MR. DICKERSON: Exhibit No. 34 is received into evidence.

(Exhibit No. 34 previously marked for identification was received in evidence, this date.)

MR. DICKERSON: Let's go off the

record a minute.

(Discussion off the record.)

MR. DICKERSON: I'm going to reserve
Mr. Kipp's right to have his attorney present if
we're going to get further down the road anyhow, so
it will facilitate matters, so let's press on.

BY MR. BLASI:

Q. Now, Mr. Bibbo, this Exhibit 34, this contains some changes to the plans as they were previously submitted in connection with Exhibit 27, is that correct?

A. That's correct.

- Q. Now, is there a change in the classification of the dam from the -- what you had on the prior -- on Exhibit 27?
 - A. Yes, there is a change in the classification.

 The original showed a class "A" classification and now we are up to -- we have stepped up in classification to class "B" classification.
- Q. So that the dam as revised and as shown on Exhibit

 34 is a class "B" dam, is that correct?
 - A. That's correct.

MR. BLASI: I ask that the record indicate that Exhibit 34 is amended to indicate that the application is for a class "B" dam.

MR. DICKERSON: Noted.

BY MR. BLASI:

- Q. Now, Mr. Bibbo, I show you Exhibit 24 which is an application for 650 feet of relocated stream channel plus effluent discharge with the exhibit attached thereto. Now, have there been any changes made in that application and in that exhibit?
 - A Yes, there has been a revision made to the stream relocation plan.
- Q. Do you say a revision, Mr. Bibbo?

 A. Yes, sir.
- Q. Is that an entire revision?
 A. No, no, no. It's just strictly a revision in the channel measurements themselves.
- Q. Now, do I understand -- well, I'll ask that -I'll withdraw the question.

MR. BLASI: I ask, Mr. Examiner, that this document be marked for identification.

MR. DICKERSON: Yes. To refresh the recollection of all parties, Exhibit 24 was the form

for a stream protection application for disturbance of bed or banks of a stream.

MR. BLASI: Right.

MR. DICKERSON: 25 was the map and plan for the stream relocation and 26 was the map and plan for the outfall sewer.

For identification Exhibit No. 35 is a map and plan entitled "Stream Relocation" consisting of one sheet dated July 2nd, 1973 showing two revisions, the latest of which is the 27th of September 1973.

(The map and plan described above was marked for identification as Exhibit No. 35, this date.)

MR. BLASI: Mr. Examiner, I wonder if
I would have about a two-minute break to put these
exhibits in shape with Mr. Bibbo here?

MR. DICKERSON: You want to make it a little longer and get a first glimpse on this? Would this be opportune or do you want to move for this in evidence now for what it's worth or how do you want to handle it?

MR. BLASI: I think what I will do is

offer this in evidence and then ask for about a twoor three-minute break if you'll be kind enough to give us that?

MR. KELLY: Yes, I will object to

that.

MR. BLASI: Same ground?

MR. KELLY: The exhibit being a re-

placement.

MR. DICKERSON: All right, let's leave 35 for identification. Let's take a break and you put them in order the way you want and I'll see what I can do to get them back even again. Give me the latest date, that was 9/27, the latest revision?

MR. BLASI: 9/27/73.

MR. DICKERSON: Now, we have everything reasonably piled up.

BY MR. BLASI:

- Q. Now, Mr. Bibbo, I show you Exhibit 35, and ask you, is this a revision of Exhibit 25?
- A. Yes, it is a revision of Exhibit 25. That's true.
- Q. Now, the other exhibits, 24 and 26, remain the same, is that correct?
- A. That's correct.

MR. BLASI: I now offer in evidence, Mr. Examiner, Exhibit 35.

MR. DICKERSON: To clarify the point,
Mr. Bibbo, do you want to explain g nerally what
the difference is or what was added on 35 to
everybody?

THE WITNESS: Yes. We were asked in conferences with Mr. Danskin of the Department of Environmental Conservation -- we were asked by him to provide sufficient channel width to be able to handle a storm of 100-year capacity, and essentially that's exactly what we did. Before we had a channel shown with 4-foot width at the base and 1-1/2 on one side slopes. We have now charged that channel to

6-foot width at the base and have kept the 1-1/2 side slopes. In addition, on the plan is shown a table of discharges as computed by the Manning Formula for various depths of flow, and on this plan is now shown a construction sequence which was essentially as stated in my report.

MR. DICKERSON: O.K., thank you.

If there is no objection, I'm going to receive -
MR. KELLY: I object.

MR. DICKERSON: -- Exhibit 35 -- what's the grounds for your objection?

MR. KELLY: It's a complete change in the whole application, and it's dated the 27th, and it's after the official closing date of the hearing in which you could examine material.

MR. DICKERSON: The publication date does not limit submission of new material if it does not constitute a major change or new project. This is a revision of the plans submitted for a stream relocation. The stream relocation is in approximately the same place. It indicates basically a different channel capacity. I'm going to receive Exhibit 35 into evidence for what it's worth, subject to the

rights of all parties for full time to examine,
make any further calculations they wish in reviewing
them for their own purposes.

(Exhibit No. 35 was received in evidence.)

MR. ALEXANDER: Mr. Hearing Officer, in that connection I'd just like the record to show that the County of Westchester and the State Department of Health have not seen these plans before and would like to take advantage of that opportunity.

MR. DICKERSON: Certainly, sir. Now, the only procedural question is shall we do it now for preliminary review, or should we proceed with Mr. Bibbo? I think it would best be served to take about a 15-minute break, and we will invite Mr. Kipp's engineer, the County people and any other parties to look at the revisions, and at the end of that 10- or 15-minute period you can decide whether you need additional time or whether we can proceed with Mr. Bibbo's testimony and handle the revised plans later in the afternoon or over this evening's time. Let's take about a 10-minute -- Mr. Blasi?

MR. BLASI: Just one point. I propose to rest at this time with Mr. Bibbo on the basis of his statement and the plans and the amendments to the plan. I thought in fairness to the Hearing Officer, I should tell you that.

MR. DÍCKERSON: In that case, we are going to take a half an hour break.

(Whereupon, a 30-minute recess was taken.)

MR. DICKERSON: O.K., ladies and gentlemen, let's resume.

Mr. Blasi, I understand you now --

MR. BLASI: What I said, Mr. Examiner -and perhaps my choice of words was inappropriate -I was turning Mr. Bibbo over for cross-examination
at this point.

MR. DICKERSON: Delicately put.

MR. BLASI: Thank you, sir.

MR. DICKERSON: The thought occurs
to me with no malice to anyone, throwing him to the
wolves, so to speak, and you have -- you are not
officially resting your entire case?

MR. BLASI: Not resting the case, no.

MR. DICKERSON: All right.

MR. BLASI: I was proposing to take a slight rest for myself but not the case. That's why I was turning Mr. Bibbo over.

MR. DICKERSON: Absolutely. I'm going to reverse the order of things, to clear up a few points. I think it would be simpler.

Mr. Bibbo, you've prepared this application for permit for construction of the dam?

THE WITNESS: Yes, sir.

MR. DICKERSON: And on the original application, you indicated that the designer's estimate of class hazard was a guideline as a Class A hazard. Is that correct?

(Witness nods head.)

MR. DICKERSON: And subsequently, you feel now that this should be a Class B hazard?

of Environmental Conservation. We've discussed it thoroughly, and the general consensus is that we will design it for a Class B structure, and that is what we're going to do. That is what we have done.

MR. DICKERSON: Would you briefly describe what the difference is or what the significance of this is?

structure requires that a spillway be provided to carry a storm of 100-year equivalence. In our particular case, the computed 100-year storm is 1,080cfs. The Class B structure -- and the qualification for a Class A structure is that if there were farm buildings below the dam and town roads,

it may be classified as Class A. Class B structure requires a spillway capacity or capability of 150 percent of a Class A structure, or in this case, 1,620 cfs, and the reason for a Class B type dam is that there may be State or County roads and a possibility of property damage if overtopping of the dam were allowed to occur, so as I said, after consultation with DEC, it was arrived at that this should be classified as Class B, and we have revised our plans to conform to that.

MR. DICKERSON: O.K. And then your flows having an equivalent of a storm occurring once in one hundred years are based on calculation of watershed area or measured --

of watershed area. They were done by -- well, we went through a series of design anywhere from a 10 to a 100-year storm, and they were done by three different methods. They were done by the rational formula. They were done -- to a certain extent to check the rational method they were done by Berkeley-Zeigler, and in the end, since the Department of Environmental Conservation indicated to us that

they would be reviewing this in conformance with
the Soil Conservation standards, United States
Government Soil Conservation standards, we performed
a third calculation in accordance with the Soil
Conservation standards.

MR. DICKERSON: And then the -THE WITNESS: That is the -- that I
referred to.

MR. DICKERSON: And then the frequency level then on the latter method for 100-year storm, to phrase it that way, would be 1,080 cfs?

THE WITNESS: Correct.

MR. DICKERSON: And then your spillway design then is for 150 percent of that, or 620 cfs?

THE WITNESS: That's correct sir.

MR. DICKERSON: O.K. You also mentioned an auxiliary or emergency spillway?

THE WITNESS: In our particular case, we were allowed to combine the entire structure into one. We would have an opening for a regular spillway, and the emergency spillway would be the 16 by -- I'm sorry. Let me restate. Instead of having two separate and distinct structures, we

were allowed to combine the regular and emergency spillways into one structure, and they would consist of a concrete box 12 feet by 20 feet in dimension. For a regular spillway we would have a 3 by 3 opening in the side of this concrete box to allow our normal flows to proceed through, and in case of the 150 percent storm, we would -- the water would then rise to a point of 4 foot above the 16-by-20 culvert, have orifice flow into the drop structure and provide a 1-foot free board.

MR. DICKERSON: O.K. I am going to ask you to take a look at Exhibit 27 and see if in the revised plan any of the calculations or surface areas in volumes under item 21 entitled "Area Capacity Data" should be changed.

THE WITNESS: Item 13 should be changed.

MR. DICKERSON: To what?

spillway combination, I believe is the terminology that would be used. Item 14 should be changed from Class A to Class B structure. Item 16 should be changed from vegetated earth to concrete. The

energy dissipated should be changed in Item 19 to hydraulic jump basin and the height of the dam above the stream bed should be changed to 21 feet.

That would be under Item 20. The top of the dam in Item 21 -- may I check the plan on that, please?

In Item 21, area capacity data, Item No. 1 should be changed to 395.5. Item No. 2 should be changed to 394.5. I find under volume stored -- I see an error here in that the two items should be changed to 26.5 instead of 36.5.

MR. DICKERSON: That's 26.5 by 36.5?

THE WITNESS: No, both of those two
36.5's should be changed to 26.5. Wait a minute,
wait a minute, wait a minute. All right, I may be -what had happened was that we have a storage above
the level 384 of approximately 26-1/2 acrefeet.
Where the 36.5 number came from was we had the
10 acrefeet stored below elevation 384 and 26-1/2
feet above that to give us a total of 36-1/2 feet,
so that those numbers can be -- remain standing.
Item 22 will probably be -- considering that at the
request of the DEC several methods of energy

dissipation at the outlet, and I have nothing in there

D

at that point.

what the maximum velocity of flow coming out with the combination spillway will be?

THE WITNESS: As it stands right now, with no -- assuming that we provided no energy dissipator at all, I believe the maximum flow is somewhere in the neighborhood of 16 feet per second.

MR. DICKERSON: O.K. Do you have any idea yet what it will be with an energy dissipator?

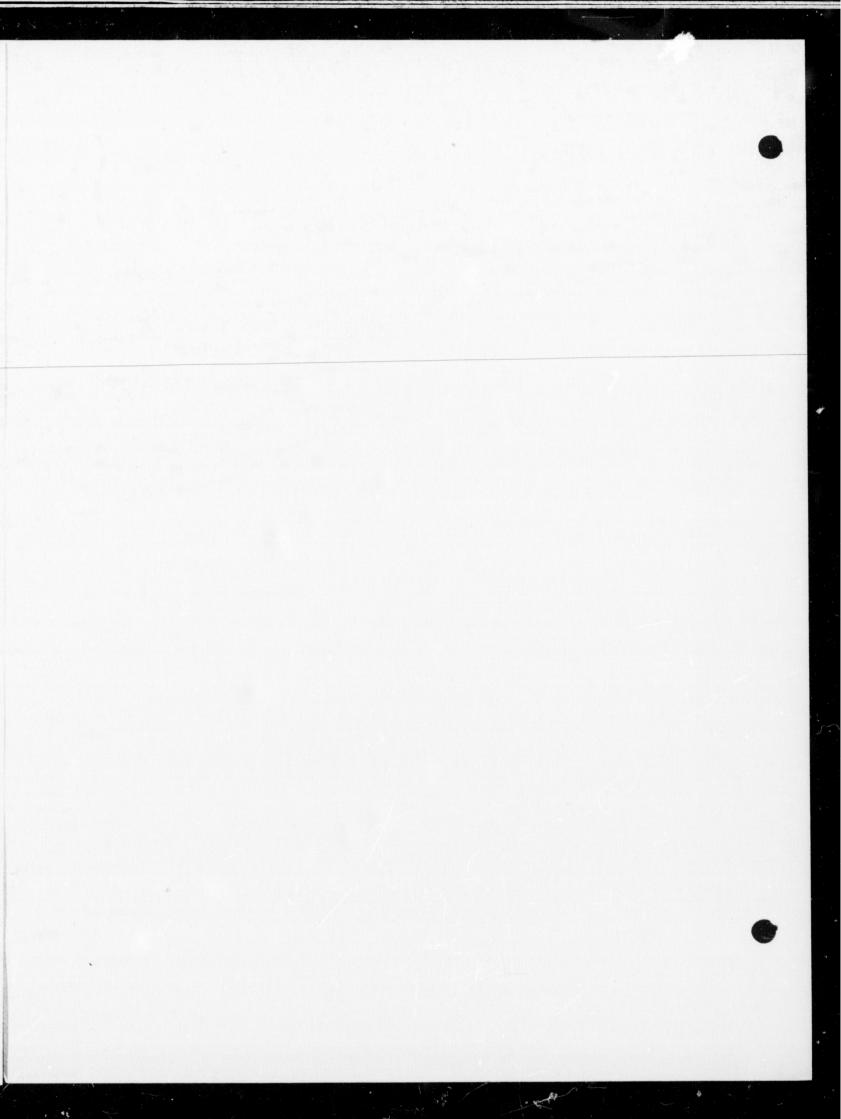
THE WITNESS: We're looking to get

MR. DICKERSON: In other words, you are going to design for 8 feet per second maximum?

down to 8 feet per second.

THE WITNESS: That's correct. The design that is shown on those plans was an original suggestion by the reviewing agent in Albany, and at our last meeting with him, he made available to us some data from the -- I believe it's the Corps of Engineers, which we did not have before, and asked us to study the other method also and they'd make a selection on the best method.





MR. DICKERSON: Let's try and put this in perspective. Finally getting to my marking pens, on Exhibit -- let's go off the record while I find 23 for a minute.

(Discussion off the record.)

(Continued on page 731)

MR. DICKERSON: Ladies and gentlemen.

On Exhibit 23, the witness has indicated with a blue marker pen by a blue line with the label "Dam" the location of the dam and also with a blue marker pen indicated by the letters "SR" the approximate location of the stream relocation.

Exhibit 20 --

MR. KELLY: -- two.

MR. DICKERSON: 22, the Comprehensive Master Plan has the dam marked with a red marker pen and the approximate location of the stream relocation is shown in a red marker pen just south of the utility area.

O.K. We've got the exhibits colored in a little bit now.

Mr. Bibbo, you testified so far that the normal depth of water, I believe, behind the dam will be approximately eight feet?

THE WITNESS: Eight feet at its deepest end, sir.

MR. DICKERSON: At its deepest point?

THE WITNESS: About four feet at the

other.

MR. DICKERSON: How long would it take for the dam to fill to that level of the anticipated

THE WITNESS: I have the hydrographs.

I have not made an actual computation of the amount of time. I suppose I could very easily come up with that figure.

MR. DICKERSON: Could you give us a rough estimate at this point?

THE WITNESS: She went from -- I guess the best way --

MR. DICKERSON: Relax.

(Discussion off the record.)

MR. DICKERSON: Let's go back on the

record.

level?

THE WITNESS: About 26 hours.

MR. DICKERSON: The approximate --

approximately how long?

THE WITNESS: About 26 hours.

MR. FLORENCE: When in the year?

MR. DICKERSON: And I'll answer the

voice from the audience, whoever --

A VOICE: We didn't hear it.

MR. DICKERSON: He said approximately 26 hours. The next question, obviously, is when in the year. This is spring or what?

THE WITNESS: No, I've taken some stream measurements June and July, I think it was. It may have been the end of May, somewhere around June. I've taken some stream measurements and what I did was base that on my -- an average between two points because I am working with Manning's Formula in the stream and you know it is subject to some interpretation and I find at one point in one stream I had 32 cfs. and at another point I had 34 cfs.

MR. DICKERSON: Essentially though your testimony is that the pool would fill to the aesthetic pool level that you desire in something less than two or three days?

THE WITNESS: Definitely, yes.

MR. DICKERSON: At the most?

THE WITNESS: Yes.

MR. DICKERSON: And a good rain might do it in a matter of a few hours?

THE WITNESS: A good rain might very well do it in a matter of a few hours.

MR. DICKERSON: O.K. One last question: Do you -- with respect to Exhibit 35, or the plans, the revised plans for the stream relocation, is there any -- this question may rebound, but is there any location or any arrangement possible for the sewage treatment plant in the general vicinity of its proposed location that would make it -- that it's feasible so that the stream would not have to be relocated?

knowledge, no. I think Mr. McPhee has been handling the sewage treatment plant and I think he has already answered that question before. I do know that there are restrictions placed by the Health Department as to distances from homes and other properties and it backs it pretty much into that area right there. I can only give you --

MR. DICKERSON: What is the approximate cross-sectional area of the channel of the stream in the general vicinity of the utility area where this relocation is? Do you know how deep the stream is there, approximately?

THE WITNESS: I have some measurements

on that stream and the -- maybe I'll be able to find them on this. The stream generally varies from four to six feet all the way down through that area.

MR. DICKERSON: O.K. Do you have anything on depth?

THE WITNESS: I'm sorry, what was that?

MR. DICKERSON: The depth of the

stream?

THE WITNESS: Depth of the stream?

Well, depending on the slope, of course, we've had anything from three -- well, these would be in the upper reaches, it's nine inches, eight inches, 24 inches, 12 inches of water.

MR. DICKERSON: Have you made any approaches to the Department of Transportation for their requirements or even if they would permit an outfall structure to be constructed in their culverts and right-of-way?

THE WITNESS: I myself have made no approaches, no. As far as their requirements are,

I'm familiar with those and I've made crossings before across state roads.

MR. DICKERSON: Do you have any

information as to any fishlife present in the stream?

I realize this isn't your main bailiwick.

THE WITNESS: No, it may very well be my bailiwick in this particular case.

MR. DICKERSON: I just want to know if you have anything to your knowledge?

THE WITNESS: I have never seen, although I understand that there have been what people commonly refer to as suckers in the stream. I've seen some blacknose dace above and beyond this property in areas where I was able to observe very closely. I know of no trout in the stream. I've fished this entire area. I know of no trout in that particular stream.

MR. DICKERSON: To give you one more, do you know anything of the average or have any figures at all as to water temperature?

THE WITNESS: I have no figures on that.

MR.DICKERSON: Would you describe generally any provisions or any measures that would be used during the construction of the dam and then also the stream relocation that would be used to

control erosion during the construction at the point of the construction, and also any measure that could be used to prevent the entrance of silt laden water into the stream.

THE WITNESS: Yes. During the dam -during dam construction, the normal method, of
course, would be to lay a pipe alongside the stream
basin, to divert the water into it while you're
constructing your dam and then later on plug that
pipe with concrete. As far as siltation of the
stream goes, without making actual siltation points
in the stream or alongside the stream, we would use
bales of hay. We've found that to be the most
effective thing that we have come across so far.

What we would do would be to line the stream channel with bales of hay and actually form little pools in areas where they can, you know, be formed without overflowing the banks. We would do the same thing with the stream relocation. I described on the sequence of construction that the first thing we would do would be to lay the outfall sewer pipe in the existing ground and then we would cut a new stream channel all the way up from -- from

the bottom, all the way from the bottom all the way up to the top but not cutting through yet into the existing stream channel. We would leave a plug of about two or three feet in that area. We'd grade, stabilize, feed the existing channel, the new stream channel, and once that channel was stabilized we would place bales of hay along the cross-section of the channel at certain selected areas and then the last measure, of course, would be to pull the plug at the head end and allow the waters to fall through. The heavier silts, of course, would be trapped in step as you go downstream. You would -- the lighter silts would be retained for a longer distance until they had a chance to drop out, so we would progressively attempt to catch silts as they went down the stream.

MR. DICKERSON: You are going to stabilize the channel, and it's going to be a seeded earth channel?

THE WITNESS: We would seed the grass, seed the slopes.

MR. DICKERSON: No riprap?

THE WITNESS: I had intended no riprap.

12A

There is no riprap in the existing channel right now.

MR. DICKERSON: How much time would elapse between the seeding and the approximate cutting through? Is it a matter of a month or weeks?

THE WITNESS: A lot of it would depend,

I think, on the time of year and the germination that
we would be able to effect and get a stand of grass
growing.

MR. DICKERSON: Do you have any idea of the velocities in this channel, both at the time of the cutting of the plug and the normal expected stream flows?

THE WITNESS: Well, if we have 30 cubic feet per second coming down the stream channel, you probably have an area in there about five to six square feet, and we would wind up with a velocity of about five to six feet per second. A lot of that, again, would depend on the time of year.

MR. DICKERSON: Did everybody get that answer? Are there any questions here?

(No response.)

MR. DICKERSON: Mr. Blasi, do you have anything further to add at this time?

MR. BLASI: Not at this time.

MR. DICKERSON: We'll begin crossexamination. Mr. Florence, do you still want to go last or do you want to start now?

MR. FLORENCE: No, I'd rather be last if I can.

MR. DICKERSON: Do you yield?

MR. FLORENCE: I yield.

MR. DICKERSON: Mr. Weber, Mr. Alex-

ander for Westchester County? However you would pre-

fer it?

MR. ALEXANDER: I just have a couple of questions.

CROSS-EXAMINATION BY MR. ALEXANDER:

- Q. Mr. Bibbo, in connection with Exhibit 35, can you tell us the distance that would exist between the bottom of the streambed and the top of the outfall sewer?
 - A. Approximately six-tenths of a foot.
- Q. A little more than half a foot. Is that right?

 A. Yes, sir.
- Q. Do you know if there are any prescribed standards for that type of construction in that type of location?

- A. I can't state whether there are any really prescribed standards in that case because, well, for instance, if I were designing for a sewer line running down, I'd certainly have some more cover over it. In this particular case, it really doesn't make any difference. It's all treated effluent, so there are no applicable standards that I know of.
- Q. All right. Well, now, passing to the structure itself, have you taken some precautions to insure its stability?
 - A. Yes, sir.
- Q. What are those precautions?
 A. May I refer to the plan?
- Q. Surely.

MR. DICKERSON: Exhibit 26.

THE WITNESS: We would use -- in making the structure or extending the box culvert, we would use a pre-cast concrete section abutted to the existing culvert, and under it we would install concrete footings to solid depth in the streambed itself and lay this structure over it so there would be complete stability of it. It's not just being laid into the streambed.

- Q. I see. Now, as I understand your testimony, no revision has been made in connection with that structure --
 - A. No, sir.
- Q. -- in Exhibit 35. Is that right?
 A. That's right.
- Q. That remains the same?
 - A. That remains exactly the same as before.

MR. ALEXANDER: All right. That's all I have. If you will wait just a second, I may have something else.

I do have one more question, I think, Mr. Bibbo.

BY MR. ALEXANDER:

- Q. Where the outfall goes under the stream, is there any precaution taken?
 - A. You mean with the -- I'm sorry, where the pipe crosses the new --
- Q. Yes, where the pipe itself --
 - A. The precaution that would have to be -- as far as bedding the pipe, is that what you are referring to?
- Q. Yes.
 - A. As far as bedding the pipe goes, this is something

that we would come upon at actual time of excavation. We would be installing that pipe before any stream relocation. At that time we would be observing it. If there was soft bottom, so to speak, then we would excavate and put a stable bottom under it, stable soils.

- Q. So that you would have to more or less play it by ear, so to speak, as the actual construction progressed. Is that so?
 - A. It would very definitely depend on field condition, the same as any pipe that is ever laid across any highway, any field or what-have-you. Many times when you install a sewer or a culvert, as we're digging a trench, we may find an area of what we call unsuitable material. That material is excavated and replaced because it's -- we must have a good foundation.
- Q. So for that reason, that has not been provided for in your plans.
 - A. No, because this is normal construction procedure.

 You know, if we ran into muck, we wouldn't lay the

 pipe on muck. We'd have to have a stable base for it.
- Q. Sure. Just a second.

(Discussion off the record.)

MR. DICKERSON: Mr. Alexander if you want to ask your questions from over there, there's no problem.

MR. ALEXANDER: I think Mr. Weber can ask the next question.

BY MR. WEBER:

- Q. What provision are you making to protect the outfall, sir, from possible washout?
 - A. On this plan I have made none.
- Q. Is there any proposal to imbed that in concrete or put in any type of stabilizing structure?
 - A. There is none shown on the plan. If this is the will of the Health Department, that -- normally, as I said before, if this was a sewer line or even a water line-sewer line crossing, we'd provide special details for it, as we've done in the past, in other words, possibly encasing the pipe in concrete, protecting the water line from the sewer line. In this particular case it's treated effluent, and we saw no reason to take extraordinary measures with it.
- Q. You would consider providing some other type of structure around the pipe, though, concrete casing

and so forth if required?

A. Yes. Definitely, if there's concern on the part of the reviewing officials, then we would make some provision to take care of it and alleviate that concern.

MR. WEBER: O.K.

MR. DICKERSON: Mrs. Saia?

MRS. SAIA: Yes, I'd like to ask Mr.

Bibbo a question.

MR. DICKERSON: Would you mind coming up a little to the front? It will be easier for the recorder to get the questions. Thank you.

BY MRS. SAIA:

- Q. Mr. Bibbo, you said before that if you relocate the stream and you're going to use seeding and bales of hay to prevent sedimentation and silt going down, why hasn't it worked so far when there's no construction?
 - A. Why hasn't what worked so far?
- Q. Your hay, your seeding. We were assured before that the sedimentation that's coming down to our pond would be eliminated after you had seeded up there.
 - A. Well, we've seeded, but you have to have the

grass grow, number one, and it's growing now. Number two. -- and I could stand to be absolutely wrong, and I'll make a public apology if I am -- it's my observation as of this time that the ground water that has come into your pond contains mostly colloidal suspensions. I have spotted areas of breakthroughs, and we've put our bales of hay up there, and we've corrected most of them. There has been an area that's given us some problems, and I inadvertently may have been the cause of that problem by some of my test pits. I was sure that I had taken the proper precautions in backfilling, and we can go up there and take another look at it and make sure that that's not it. We know that there is one area that has been a problem area, and it has come out, and we've gone over it time and again. Again, the water -- if it was actual silt, you'd see deposits as it came into your stream, into your pond, and if we don't see there deposits and after the rain stops the water stays brown until finally it has a chance to move out, this to me means colloidal suspension. It doesn't mean actual deposits of heavy silt. If it was all heavy material, what would happen is that

the material would go into an area, deposit itself and immediately the water would clear up. Now, if there is, in fact, silt in that pond -- and I believe I have the authority to say this -- if there is silt in that pond after our construction -- I will go out in the field as a representative of Heritage, and you may have your own representative there -- if there is silt in that pond and we've caused it, we'll clean it up.

- Q. Now, it seems to me, though, that since we have had so much mud coming in every time it rains -- and last week if you were around you could see it again -- that with this vast construction, wouldn't there be a lot more coming in that would affect us, plus, perhaps, you know, across the Firemen's Pond and also Mr. Kipp's property?
- A. If we allowed the bulk of it --
- Q. Because, you know, there's such a vast construction that will be going on, I would assume, with the reconstruction of the stream and I'm quite concerned about that.
- A. I understand what you're saying. If we allow the silt to escape us and don't take the proper --
- Q. Well, if there is no construction at this point and there is construction later, what would happen?
- A. There has been construction.
- Q. To the stream?
- A. No, adjacent to it. We'll just have to take all
 the special and proper precautions that are necessary,
 and we'll do it with the best available talents.

 I'm not relying just on myself. We'll have the Soil
 Conservation Service come down and give us a hand.

- Q. Do we have assurances of this, that this will be corrected?
- A. I give you my promise.
- Q. In writing?

MR. DICKERSON: It's under oath right now. I don't know how much further you want it.

MRS. SAIA: Well, you know, we've tried before to get something done.

MR. DICKERSON: Can I interrupt at this point? I think to clarify one issue, you might describe the difference of what you're stopping with your hay bales, the silt, and what you've referred to as colloidal material which does produce murky water and explain what happens with that stuff. It may clarify some of your concerns and your questions can be directed to that.

THE WITNESS: Well, colloidal material, to go into as simple an explanation as possible -- colloidal material is material that is so fine that it just floats on the surface for an indefinite period of time, O.K.? The silts that we catch with our bales of hay are materials that will float with the water but settle out in a very much shorter

period of time.

BY MRS. SAIA:

- Q. Then how would you get rid of this colloidal material, then?
- A. The colloidal material will actually flow and flow out --
- Q. Will we ever get rid of it?
- A. -- and eventually deposit itself downstream little by little. Grass growing will catch little dust particles.
- Q. Then what you're saying is it may never clear up?
- A. Your pond?
- Q. Yes.
- A. Oh, it has cleared up.
- Q. It has never cleared up, Mr. Bibbo.
- A. It has stayed -- it has stayed murky for three or four days, five days, sometimes six days --
- Q. It used to be clear that you can see the bottom.
 You cannot see the bottom any more.
- A. I could never see the bottom of that pond.
- Q. Well, we live there, and I think we --

MR. DICKERSON: You will have a chance to state what you 've seen as to how it's changed,

but what I was trying to get at was is the colloidal material such that it is so fine, it will float with the water, and it will only clear up when it's not gettinginto the water. It will pass through and have little effect on your pond as far as filling it in. It will only color the water as long as it's present, but the other effect of it where the volume of material comes in is silt size or sand size particles, and these settle out of the water and could fill in your pond. Now, we distinguish these two things. He mentioned both of them in his answers.

BY MRS. SAIA:

- Q. Also, I would like to know, I don't quite understand the dam. It will be filled with water from the stream plus precipitation, or how will that be filled?
- A. How will the water --
- Q. How will you get the water for the dam?
- A. Well, essentially from the stream, and when it rains, the stream rises and brings more water in, of course.
- Q. Also, I don't understand, when you relocate this stream and use this water to fill up your dam, what

effect will this have on the stream further down by coming into our pond? Will it be a lessened flow?

- A. As the dam is filling up?
- Q. No, at any --
- A. I'm sorry. I didn't quite understand.
- Q. As you're filling up the dam, yes, and whenever, you know, you use the water from the stream.
- A. You said something about relocation. I think that's what confused me.

at a time. What will be the effect while the dam is filling up on the stream.

THE WITNESS: There will be a lessened flow of water, yes. We would keep the -- BY MRS. SAIA:

- Q. Sometimes there is no flow. You know, then how --
- A. Well, I think if this turned out to be done during the summertime at a point of very low flow, we would simply keep our gate open, and we would wait until such time as there was sufficient flow in the stream and possibl, even for heavy precipitation lessen the opening of the small gates. There would

still be almost an equivalent amount of water flowing through, and we'd have backup into our pond. It would do it with a controlled structure, really.

- Q. There would be less, though.
- For a -- I computed it. It would take maybe A. 24, 26 hours, and I did it, you know, very quickly, and I could be off by a few hours either way, but it would be such a short period of time, and we would wait and observe -- for instance, if you had a heavy rain, you might have 100 cubic feet per second or 75 cubic feet per second coming down through that, and we would be able to crack the game and allow so many cfs to come through the bottom structure, and at that time, since there would be more than what we'd be allowing to go out, you would allow maybe the normal amount to go out, ten cfs or whatever it is. The rest, the remainder of it would be used to fill up the pond, and it would be done in a short period of time.

(Continued on page 753)

MRS. SAIA: Well, would it be less than at any other time when you were filling up the dam?

THE WITNESS: No, I wouldn't think so.

I wouldn't think so, no, because once the dam is

filled, there's an opening there to provide that any
water that goes down flows normal.

MRS. SAIA: The water from the dam, what are you going to be doing with that; is it just for holding purposes or do you plan to use that water?

THE WITNESS: No, there really isn't sufficient water in there to use it for anything.

It's a decorative pond, I would say, more than anything else.

MRS. SAIA: O.K.

MR. DICKERSON: Thank you, Mrs. Saia.

Dr. Port?

MRS. PORT: He's not here right now.

MR. DICKERSON: New York City?

(There was no response.)

MR. DICKERSON: Mrs. Bahret?

MRS. BAHRET: No.

MR. DICKERSON: Mr. Mally?

(There was no response.)

MR. DICKERSON: Mr. Oehler.

BY MR. OEHLER:

- Q. Lenny, you indicated that you did the computation for the amount of drainage area and you had so much water per second. Is the basin that's being drained into that stream indicated on any of these maps?

 A. No, the -- the basin that's indicated for that entire stream is on a set of computations, of course, which were forwarded to the Department of Environmental Conservation.
- Q. Is that basin wholly within your property?

 A. No.
- Q. Is it wholly within the County of Westchester?

 A. No. The basin takes in a good part of what we call the Town of Carmel, Mahopac actually, I guess it is.
- Q. The studies that you did were based on the current use of the land, is that correct?

 A. The studies that we were basing it on, the flows that I provided for were provided for the developed area for the entire drainage basin for the future.

- Q. Including the Town of Carmel?
 - A. Including the Town of Carmel, right. I was being -- I have no control -- the reason I did that, of course, and we're being conservative, is I really don't have any control what happens in the Town of Carmel so I had to assume development up there.
- Q. What kind of development did you assume?
 A. I assumed, I believe it's a third -- a third to
 a half a unit per acre housing.
- Q. Does that basin, in fact, go to Route 6 or through
 Route 6, that drainage basin?

A. Go through Route 6?

Q. Yes, does Route 6 cross the drainage basin?A. No, it doesn't. Let me just check it.

MR. DICKERSON: Let's go off the record. We'll take about a two-minute break while he's marking this.

(Whereupon, a short recess was taken.)

MR. DICKERSON: Ladies and gentlemen,

let's try and go 'til we break for supper.

THE WITNESS: Mr. Examiner, I made an error in my computations. May I amend that?

MR. KELLY: On the record.

MR. CEHLER: What error is this?

MR. DICKERSON: Gently, gently, please.

MR. FLORENCE: Which one is this?

MR. DICKERSON: O.K. We'll overlook

that now and start over again. Let's resume.

During the break, Mr. Bibbo has marked on Exhibit 23 with a solid red line using a red marker pen, the approximate drainage area tributary to the dam and Brown Brook.

Mr. Bibbo -- if you will excuse me for a second -- you had something to say. You just said you wanted to amend something.

about how many hours it would take to fill up that dam and I had based it on an average stream flow of 35 cubic feet per second and that took 3,250,000 gallons which are 10 acrefeet divided by 126,000, which was my cubic feet in an hour and I should have had another 7.48 gallons per cubic foot in there so at 35 cubic feet per second if I take 26 hours I would divide that by 7.48 and it would give me roughly three and a half to four hours to fill that pond.

MR. DICKERSON: So now you'll get it

filled in day probably?

THE WITNESS: Three and a half to four

hours.

MR. DICKERSON: A day max?

THE WITNESS: Definitely.

MR. DICKERSON: Thank you.

Mr. Oehler, do you want to continue?

MR. FLORENCE: Can we consent to fill

it for four hours and not disturb the stream? I would be willing to stipulate to that.

BY MR. OEHLER:

- Q. You indicated that some of the drainage basin was, in fact, in Putnam County, correct?
 A. Yes.
- Q. Is all the drainage basin that is in Westchester

 County within your property, within the property of

 Heritage Hills?
 - A. No, no, it is not.
- Q. Is some of the other property the property of Mitch Miller?
 - A. Yes, it is.
- Q. Do you know what the plans are for that piece of

property in Mitch Miller's section?

- A. I'm working them right now.
- Q. I know that, Lenny. In fact, are there cluster units

 be. proposed in that area?

 A. Yes.
- Q. Do you know how many units will be placed in that area?
 - A. Roughly about 250 over 300 acres.
- Q. Do you know what the existing zoning is in the Town of Carmel for that area?
 - A. I believe it runs from a half acre to acre.
- Q. And before, you gave me an answer I believe, that something like you assumed one-third to one-half of a unit per acre?
 - A. Yeah. I have some rough notes that I've jotted down. Let me just get them and refer to them for a second. Yeah, about -- roughly it comes out to about-- these are not my computations but these were notes that were being made at the time we arrived at the

rough CN factors, comes out to about four-tenths, four-tenths per land acre.

Q. That is existing units?

A' Oh, no, that is what I assume would be future

land use.

- Q. You gave four reasons before for the dam. One you said it was scenic; two, you said silt control; three, you said flood control and, four, you said an access across the stream if I remember correctly.

 A. That's true.
- Q. I'll ignore the first and the last. Would you tell
 me what would happen if the dam wasn't there and in
 terms of silting? Where would this -- what would
 happen to the silt, what function is the dam serving,
 is what I'm trying to get at?
 - A. Assume no development.
- Q. You have a development.
 - A. But no, let me -- let me start from the base.

 Any stream during any rainfall, if it's severe enough,

 carries forest debris litter with it, eroded soils,

 carries silt.
- Q. M-m h-m-m.
 - A. Regardless of what happens, whether you develop
 the property you have now or not. Now, if you put a
 dam in there of any sort or any type of stilling
 basin, let's call it, something that will retard the
 velocities of the water, you'll have a dropout of

- this silt in that area. Essentially this is what will happen.
- Q. So the pond must be drained periodically in order to remove the silt that has dropped out?
 - A. It doesn't necessarily have to be drained. I -we've provided a structure for the draining of the
 pond.
- Q. A drain plug?
 - A. Yeah, but you see, we -- we also design most of our drainage to come in at a certain point and it's at the shallowest point of the stream and we feel that we can maintain the silt from that area without draining a major portion of it.
- Q. I guess I don't understand what you mean "maintain" it. It's going to accumulate there; it's going to fill up the pond, is it not?
 - w-h-o-o-o-s-h! over the whole area and drop in a blanket. It comes into areas and builds, say, a sandbar and these are the areas that you would remove and keep clean.

A. Well, silt or sediment deposits doesn't come in

Q. I have a pond myself. I lower the water twice a year to remove silt. I assume you must, in order to

remove silt, have to lower the water?

- A. It can be done that way. It can be lowered a couple of feet, yes. It depends on the characteristics of the formations that are there.
- Q. If I didn't lower the water the pond would fill up at one end at least, the silt would come in and gradually build up at the inlet, that's true.
 - A. Yes, at the inlet, that's true, not at the outlet.
- Q. Not at the outlet?
 - A. No.
- Q. So you don't have any feeling for how often you'd have to lower the pond?
 - A' No, I -- in fact, once construction is completed and the grass is growing and all areas shaped up, we probably would have less forest litter and debris coming down there because I can't control what's happening up in those areas of the property, not just the Mitch Miller property that's referred to but the property the west side of Warren Street which is now part of this development, and the property up in Carmel. So depending on what happens up in that area, you're faced with this cleaning problem and it's too broad a scope to even start to estimate it

- Q. Some of the drainage basin is the golf course, correct?
 - A. The golf course is in some of the drainage basin.
- Q. Fertilizers are used in maintaining a golf course?

 Do you plan on using fertilizers to maintain the golf course?
 - A. Do I plan on using them?
- Q. Does Heritage Hills plan on using fertilizers in maintenance?
 - A. If someone plays golf -- I would assume someone would use fertilizers. I am not a golf course architect. I don't want to get into that.
- Q. That grass doesn't survive without fertilization.
 A. They topdress greens, yes.
- Q. The chemicals from that fertilization, will it get into the pond?
 - A. I assume there would be some runoff, depending on the chemicals and the amount used.
- Q. Will you have to treat the pond in any way to control algae bloom?
 - A. I don't think so.
- Q. Let me look at flood control for a minute. Suppose that the dam was not there and the sewerage plant was

placed downstream from it. Is there any problem with the sewerage plant being flooded during a 100-year rain or a 150 percent of a 100-year rain?

- A. I would -- no, I don't think that the sewerage treatment plant would be flooded because it's up at an elevation that, according to my computations, is above the flood level.
- Q. What happens in that area of the streambed now in a heavy rain?
 - A. The water comes right by it.
- Q. Does it overflow?
 - A. There is area for it to overflow.
- Q. Did it overflow before your construction?
 - A. Did it overflow before my construction?
- Q. M-m h-m-m, before the -- there's a lot of construction in that area. A lot of dirt has been moved in that area. Was there a flood plane there before?
 - A. Are you talking about the basin where the sewerage treatment plant is supposed to be?
- Q. Correct, yes.
 - A. There was an area for flooding, yes.
- Q. How large an area was it?
 - A. I don't have the computation on it.

- The sewerage plant is in that area now? Q. A. Yes.
- So without a dam and the flood control it provides, Q. there would be a possibility of flooding in that plane?
 - A. Without the dam being there --
- Q. Yes.
 - A .-- there would be a possibility of flooding in that area?
- Q. Yes.
 - A. Oh, yes. In 1955, October 16th, three foot of water over Route 202.
- How high is your seven or eight foot -- I forgot the Q. number -- of water above the height of the sewerage plant, above the concrete wall around the sewerage plant or whatever it is?
 - A. How high is the --
- The elevation of the normal water level in the dam Q. in a nonflooded state, the beginning of the catch basin?
 - A. The top of the pond?
- The top of the pond, yes. Q.
 - What elevation is that?

- Q. Yes.
 - A. That would be, I believe, at elevation 384, and if I can refer to the plan here -- the elevation at the top of the concrete is at elevation 365 at the sewerage treatment plant.
- Q. 19 feet lower?
 - A. That's correct, right.
- Q. You've indicated that you're going to use normal escapement of the water. The normal way for the water to get out is through a casement of some sort going under the dam.
 - A. M-m h-m-m.
- Q. And the emergency way to go out, too.
 - A. M-m h-m-m.
- Q. Is there any possibility that that would become clogged since there's only one way out. What if logs or timber or debris or things fell into the --
 - A. The opening is 16 -- no, 12 by 20 feet. This question came up in my discussions with the reviewing agents, and none of us felt that there would be a severe possibility of clogging.
- Q. Is that area fenced or protected that there's no possibility of malicious acts in that area?

- A. They'd have to swim to get to it, if that's what you're talking about. The intake structure?
- Q. Yes.
 - A. They'd have to swim out in the water to get to it.
- Q. On the other side of the dam you indicated a -- I

 don't remember the numbers; you can refresh my memory

 -- there is a flow of water coming out of the outlet

 of the dam. Do you remember what the speed of the

 water was?
 - A. Well, there's -- the 100-year storm is one thing, and what we're designing, of course, is 150 percent of a 100-year storm, all right? And let me just make one clarification before I give you the rest of my figures. The Soil Conservation method states that their -- or the Soil Conservation Manual states that their method is not to reproduce an actual maximum storm but to reproduce a maximum safe storm for design purposes, O.K.? Bearing that in mind now, I believe I stated that the cfs was, or the velocity of the water coming out, if there were no stilling basin, no stilling basin at the end of it -- we'd chop that off -- would be somewhere in the neighborhood of 16 feet per second, but I better check that, see if I've

got it here with me. 16.9 feet per second.

- Q. And what would it be after the stilling basin?
 A. We would try to get it down to about eight feet per second.
- Q. Can a person stand in water moving at eight feet per second?

A. Grass will grow. It won't erode the grass at eight feet per second.

MR. OEHLER: I'm finished. Thank you.

MR. DICKERSON: Mrs. Daly?

MRS. DALY: Do you want me up there?

MR. DICKERSON: Just as long as the

stenographer can hear you.

BY MRS. DALY:

Q. Regarding the sewage treatment plant, at various times it's been mentioned that chlorine will be used extensively in connection with the operation of the plant. What precautionary measures do you plan to have in order to avoid any disasters with the storage of the tanks?

MR. BLASI: Didn't Mr. McPhee handle that this morning or yesterday or the day before?

MR. DICKERSON: This is the first time

it's come up. That factor, the sewage treatment plant, was testified to by Mr. McPhee, and I don't know that any mention did come up about safety or handling of chlorine at any time, only that it would be used --

MRS. DALY: Well, I'm primarily concerned with precautionary measures because of the proximity to not just myself but to my neighbor which --

MR. DICKERSON: The question should properly be directed to either Mr. McPhee or Mr. Weber. I don't know if Mr. Weber wants to volunteer an answer on that. As an old Health Department hand, I'm sure he's got one ready.

MR. WEBER: I was afraid you were going to ask me.

MR. DICKERSON: I don't want to cut the train. Do you want to hold that question for Mr. Weber?

MR. WEBER: I'll answer it later.

MRS. DALY: Whatever you prefer.

MR. DICKERSON: Well, the thing is I

know you wanted to talk to Mr. Bibbo about the

drainage and things like that, and that's what we've got Mr. Bibbo up here for.

BY MRS. DALY:

- Q. There'll probably be a lot of holes. The plant has been revised -- the plans for the plant have been revised several times. Why -- what's the reason for the -- I think there are two revisions, or how many revisions have there been?
 - A. The plant, sewerage plant?
- Q. Yeah.
 - A. I'm sorry, I have nothing to do with the sewerage plant -- I have not been involved --

MR. DICKERSON: You mean the stream relocation, don't you?

MRS. DALY: No, I meant the sewerage plant.

THE WITNESS: I have not been involved in the sewerage plant at all.

MR. DICKERSON: Mr. Bibbo has been working on the dam design, the relocation of the stream around where the sewerage plant is going to be,

I think --

BY MRS. DALY:

- Q. All right. Now, regarding the dam, from what I've heard discussed this afternoon and this morning, isn't it possible that you knew that a dam -- that you were planning to have a dam there at the time we townspeople were being informed of Heritage Hills' plans for this development?
 - A. At the time that you people were being informed of the plans for the development, I wasn't even involved in the project, so as far as a dam going there, this is something that -- we talked about a normal road crossing and how shall we effect this and the possibility of a decorative pond in here and retaining some waters. This is the solution that I came up with and presented to Heritage for their approval and then finally submitted my plans to the DEC. I was not involved with this project until -- I think it was -- I said March before. It could have been the end of -- the last week in February, the beginning of March, somewhere like that, the second week in March. I believe they had their approval from the Zoning Board of Appeals.
- Q. Well, I don't think beauty has anything to do with my question. I mean, it might be beautiful. I could

also say that a dam is very unattractive, but I would like an answer to my question by someone.

A. You asked me if I knew that there was going to be a dam there before -- when the townspeople were being informed of this, and what I've said to you is that I had no personal knowledge, and I couldn't tell you that. All I know is I got involved with this project, and from the time I got involved with the project and we started talking about it with the planners and the landscape architects and the designers about what we were going to do, the type of amenities we were going to create, what they would like to see in certain areas, the three or four natural things that I stated in my letter happened to come out right at that one point, and that's why I proposed that we put that dam in there.

Q. Well, what I'm getting at is if you yourself were not directly involved with this at the outset of this development, surely when you took over the job of engineering consultant you inherited records. I'm sure you had to go over them very closely. You had to brief yourself on what had taken place prior to your joining the organization.

A. No, I inherited one set of plans. There was a road layout for the model area. I inherited the Comprehensive Master Plan to show me what their intentions were in the area. I got copies of soils maps which I used in my drainage studies. I got copies of topographic maps, but as far as actual design data, I got a copy of one set of plans, and it was the model area plan showing the main road coming in from Route 202 to the model area. We immediately revised the profiles on the plan. We revised the drainage structure underneath that road to again effect the same type of thing. They had a box culvert provided for underneath the expansion road off of 202, and what we did was -- so that all the water could flow right on through, and what we did was make a much smaller pipe. I believe it was about an 11-by-18 culvert, and we caused -- we computed that to a certain type of -- we computed that in a certain storm -- I believe it was a 25-year storm -that that pond area that is being constructed underneath the model area would back water up on our own lands, retain the water so that at some future time after the major portion of the storm had passed, it

would release it slowly. Again, the storm retention, storm prevention. This is the only thing I inherited as far as design plan goes, and that's the only thing that I changed.

- Q. I didn't mean design. I meant you must have had -someone must have had it in mind --
 - A. Mrs. Daly --
- Q. -- about a dam, and I would like to know who could provide me with that --

MR. DICKERSON: He just testified that he was the one who suggested the dam.

MRS. DALY: But I should think that they would have known about it at the time the hearings were held so that the public could have been so informed.

MR. DICKERSON: Well, do you want to field that, Mr. Blasi, or not?

MRS. DALY: I'm sure since they are experienced in this field.

MR. BLASI: Well, I think a compreheasion on the philosophy and the nature of the ordinance is important. It's about a three- or a four-step ordinance which is in evidence as well as the resolution. This comprehensive plan, together with other documents, which was submitted, represents the concept of development. It doesn't show every pond. In the course of the discussion before the Boards, there were statements made -- for instance, when the golf course was proposed, not every hole was laid out, not every pond in the golf course, not every tee, not every situation.

In addition to that, all of these things are under control of the various agencies.

As you yourself, Mr. Dickerson, pointed out, there was this concurrent jurisdiction. Now, we gave the town the overall concept. They approved it with certain conditions, including conditions of coming to you, of coming to Mr. Weber, of coming to the other people. As Mr. Weber's office knows, before any subdivision section can be approved, it has to go to the Planning Board. The engineer has to go look at it. He has to make his report. All the different agencies have to make their reports.

Now, when Mr. Bibbo came into the picture, as he's pointed out, in his studies of these situations, he has come up with a proposal. The

jurisdiction of the Planning Board, the jurisdiction of the Town Board, the jurisdiction of the Zoning Board of Appeals, the jurisdiction of the County Health Department, the jurisdiction of the town engineer, the jurisdiction of the Department of Transportation, the jurisdiction of the Superintendent of Highways is a continuing one under this type of ordinance. It's a designed residential development. It would be a physical impossibility even as much as locating at that point -- even moving a structure because you might find a rock formation or something. It couldn't be possible.

Now, Mr. Bibbo came into this picture, and he's explained precisely what his position is.

Now, from then on, all of these other things have to be done, and I don't think that at this point it is a matter for -- and I say it respectfully -- for your jurisdiction. We don't interrupt the questioning.

We've tried to give all the answers.

That's my explanation.

MR. DICKERSON: I thought you might be able to clarify the point.

MR. FLORENCE: I didn't understand

your answer.

MR. BLASI: You really didn't, huh?

MR. FLORENCE: Could you change that

around --

MR. DICKERSON: If I could interrupt and speak bluntly again, I don't know if they thought about a dam at the time it went to the town or not. All Mr. Bibbo said was that he had to get across that stream some way based on the road layout he was given, and instead of building a culvert, he proposed a dam which would not only get him across the stream, but it would have a couple of other beneficial effects, as he viewed it. Now, that's his testimony and his answer. Now, if you don't believe Mr. Bibbo, I would suggest that you contradict that when you present your statement, but I don't know how much more we can hit Mr. Bibbo over the head with that question.

(Continued on page 777)

MRS. DALY: Well, I -- I find it hard to believe for this reason: By the same token, we were never told about the reolocation -- the relocation of the stream, and I'm sure he must have had that in mind.

MR.DICKERSON: Well, again, as

Gounsellor has pointed out, I am not bound by what

the town does in our decision and I am in no way

responsible for what has preceded this hearing

or what has -- the town has done. I am responsible

for the conduct of the hearing and one of the

outcomes is this is an opportunity for the

people to review what has been proposed before us.

Now, obviously if you don't like it, I would welcome

your comments on it. It's just that we're not

going to get any further with Mr. Bibbo. He's

said that he's the one who proposed it.

MRS. DALY: No.

MR. DICKERSON: Now, if somebody else has the idea, we can't take it any further.

Now, what I'd like to get on, if you have any further questions of Mr. Bibbo, why the dam, what your feelings against it are, any dangers

PATILINE E WILLIMAN

.

THOMAS

or anything, ask Mr. Bibbo. As to what happened in the town proceedings, I'm going to say this on the record and it may cost me my job, I could care less as far as this proceeding is going because if they did something that -- if they're proposing something here today that's contrary to what they proposed to the town, the town has an official record that they can refer to and jump on the applicant. By the same token, they're making a proposal to us that we're going to review. We'll either approve it, reject it or modify it and if we reject it, it's dead. If we approve it and the town doesn't like it, then the town can take action. If we modify it, then the town can either accept our modification or they can reject it. It doesn't hinder the town's action.

By the same token, the town doesn't hinder our actions at this point in time and I -- I think I've laid it out fairly bluntly, so anything that we can concern ourselves about with the stream, I think we ought to continue on but as far as what has happened in the town, while I may have feelings on it, they are not such that I can bring out.

PAULINE & WILLIMAN

T

THOMAS H FOLLY

It has nothing to do with my job and little or nothing to do with this hearing and --

MRS. DALY: Well, I guess --

MR. DICKERSON: -- we have to deal with, you know. O.K. Did they seek town approval? Yes, they received a town approval. Now, following through on that, then supervising it is going to be a town responsibility just like following through on our approvals and they're going to work simultaneously.

MRS. DALY: Thank you very much. The point really that makes it so frustrating to discuss this is that it's not what was said, it's what wasn't said and on the basis of what was not said, we were misled.

MR. DICKERSON: O.K. And what I

MRS. DALY: That is my bone of contention.

MR. DICKERSON: And when the time comes for you to make your statement and present your case, then you can refer to that directly.

MRS. DALY: All right. Now, let's

want --

see if I can wind this up. I thought I heard
the statement made that there would be no
interruption of the stream flow at the time
that the proposed lake was being built up. Now,
I was told contrary to that about three or four
weeks, maybe five, six weeks ago.

MR. DICKERSON: You want to field this?

THE WITNESS: By whom?

MRS. DALY: Whom was I told by?

MR. DICKERSON: Mr. Bibbo has

testified, based on the average stream flows, the initial estimate he made was 26 hours of possible stream flow interruption. He has corrected this figure to four hours and any effect within the range of error, it would be a matter of a day or so at most.

MRS.DALY: M-m h-m-m. Now, with this widening of the proposed relocated stream,

I understand it's going to be widened to six feet?

 $^{\mathrm{TH}}_{\mathrm{E}}$ WITNESS: It varies. It varies within that range.

MRS. DALY: And also --

MR. DICKERSON: Well, give him a

chance to finish.

MRS.DALY: All right. Did you have something else to say?

15/2

THE WITNESS: It varies within that range right now and what we've done, we've had an original relocated stream proposal for four feet in width at the request or suggestion of the Department of Environmental Conservation and we've restudied the width of a stream to provide for the handling of greater storm flows. The difference in actual capacity between the 4-foot wide stream, and a 6-foot wide stream, at low flows is relatively insignificant, but if we ever have a storm of '55 again which is 8.4 inches in 24 hours in this area and was a tremendous storm, the worst storm in recorded history in New York, the stream's crosssection that we have right now would be able to pass it by that sewage treatment plant and that's what we did.

MRS. DALY: Well, my reasons for asking that question is I believe that that stream right now, and where it will be relocated

is in the wetland area, so therefore, in case
of any heavy rains or anything, I should think
it would spread out more.

THE WITNESS: No, the type of storms that we're talking about --

MRS. DALY: No, I don't -- I mean we've been having --

that we're talking about and the type of drainage we're making provision for and to the best evidence that I could accumulate by talking to the people who were involved in that storm of '55 and maintenance of the roads and trying to salvage a portion of this area where water was at least three foot over the top of Route 22, you know, you could take five acres out of that drainage brain and it wouldn't make a drop in the bucket of that type flood and this is predominantly what I'm talking about.

The inclusion of a sewage treatment plant into a small area up in there really has not drastically reduced that wet area. No. 2, I could have provided for a culvert underneath that area

where the dam is going out. It would have been no more than a road crossing and the water would have come on down. We've proposed a dam structure, have a little pond, have a dam, retain some of that water, let's try to knock the top. You have to understand what a hydrograph looks like. Let's knock the top off that crest. Let's try to blunt that a little bit. Let's not get that thousand and eighty cfs coming down in one fell swoop. I think what we've done there is improve the situation. I don't know how else to say it.

MRS. DALY: Well, my main concern is that it is presently located in the wetlands.

Now, are your figures based on the fact that its location is a marshy area?

THE WITNESS: My figures for what,
Mrs. Daly? I'm not understanding.

MRS. DALY: Well, meaning all these figures you've been talking, thinking about, the overflow and so on and so forth. If it's located in a drier area where the soil is not marshy, it wouldn't have the tendency to flood but this is in a marshy area. For instance, where the -- in the

sewage treatment plant area, you have a telephone pole that was put up recently with two guide wires there and that's located in the pool of water, which pool of water I believe occurred because of the removal of the trees and sarub from there. That's the point I'm getting at. I mean you've developed a pool of water there and I'm afraid that with --

THE WITNESS: Well, that -- I'm sorry, I didn't mean to interrupt. Go ahead.

MRS. DALY: I'm afraid that with -with all that is occurring, with all the
construction and whatnot, the fact that the area
is a marshy area as it is now and has been ever
since I've been living there, that a -- and a plant
being put right there in that marshy area, I think
that may be just in between two marshy areas right
now, that there is a chance of spillage.

THE WITNESS: You mean that my stream would overflow?

MRS. DALY: Right.

THE WITNESS: No.

MRS. DALY: Because of the marshiness?

PALLINE E WILLIMAN

THE WITNESS: No, we've relocated the new stream to a point where it will act as a channel to carry the water safely past the sewage treatment plant.

15/3/1

MRS. DALY: Now, is that entire -is the entire brook where it's been diverted being
widened so that it's somewheres between 4 to 6
feet or is it just a small portion of it? I didn't
get that part of it. Some of it I didn't get.

the part that's being relocated is being widened or built to a depth. The stream varies. If you go up in some areas up in the top of maybe 8, 9 feet wide, other areas are 4 to 6 feet wide. I must have half a dozen or a dozen stream measurements up in that area showing various widths of streams up there. What we're doing is constructing a stream whose base is 4 feet, 6 feet at the base, and we are rising on 1-1/2 on one side slope which means that for every foot we go up in elevation, you go out a foot and a half in distance and provided a chart showing the various flows that the various depths and the stream will carry peak flood flows

safely past the sewage treatment plant.

MRS. DALY: I can't help but make

a comment about your reference to the fish in

the brook. There are suckers, of course, but there

are perch and bass and the suckers are gigantic,

believe me.

THE WITNESS: Well, --

MRS. DALY: But not any more.

I mean they were, not any more.

it's classified as trout stream waters. I've
never seen a trout in that brook. I'll state
categorically I've never seen a bass. There may
be perch. I haven't fished there every day but
I've fished that entire area. I can tell you
where the best trout are in the area. I will say
that if I was -- if I wanted to create a trout
stream, I wouldn't want bass in that water, I
wouldn't want perch in that water, I wouldn't want
suckers in that water.

MR. DICKERSON: Mr. Bibbo, would you care to state on the record where those trout are?

THE WITNESS: I'll take you there.

MRS. DALY: No, I wasn't referring

to trout. I said there were other fish there but there were perch right in that area in the pond.

A VOICE: Were.

MRS. DALY: Were; I have to make it in the past tense, and I believe that you are aware that not only silt and mud has been flowing into the pond, but the same condition has been occurring in our brook. Now, about a month ago, it wasn't muddy waters flowing through our brook, but actual mud, actual mud.

telling me what I purported to know. I state here and now that to the best of my knowledge -- I could stand to be corrected and I'll give you an apology if I'm wrong and we'll make sure everything is taken care of. As I stated before, to the best of my knowledge, there is colloidal suspension running down there. I can pinpoint the area from which it's coming. I found portions of the brook where we're constructing the golf course up above to be running clear water right now, where

there's water coming down below, ground water,
and I know where it is. I stated before that

possibly I might have been the cause of some of
it. To the best of my knowledge there has been
no mud running through that stream. There may have
been some silt.

MR. DICKERSON: Well, if you want to establish that there's -- there was mud flows, you'll have to state that under oath when your case comes, all right?

MRS. DALY: Oh, yes.

MR. DICKERSON: We didn't get an objection on the form of that question but I want to bring it out.

MRS.DALY: I'll do that later.
Thank you. That's all I can talk about then.

MR. DICKERSON: Thank you.

Miss Eustace around?

(There was no response.)

MR. DICKERSON: Westchester County got anything further to say at this moment?

MR. ALEXANDER: No, no, thank you.

MR. DICKERSON: Mrs. Rauch?

PAULINE E. WILLIMAN

(Leonard Bibbo)

(There was no response.)

Mrs. Nardelli?

(There was no response.)

Mrs. Goldman?

(There was no response.)

Mrs. Robertin?

(There was no response.)

(Continued on following page)

PAULINE E WILLIMAN

HER FIGURE SERVICE AND ARRESTS

THOMAS - FOLEY

MR. DICKERSON: I hate to waste the next 20 minutes, but Mr. Florence is ready -- is there anybody else who has any questions of this witness? Mr. Florence, I'm sure is going to cross-examine. I just wonder if we want to press on or resume in the morning.

MRS. SAIA: Please press on a little bit.

MR. DICKERSON: All right, Mr. Florence, do you want to start?

MR. FLORENCE: I'd rather study a couple maps I still have to do and I also have to understand one.

MR. DICKERSON: I think in order to -- we might as well take a break then shortly. A couple housekeeping chores. These are yours, I believe (indicating a folder).

THE WITNESS: Yes, thank you. I got some figures in there.

MR. DICKERSON: Exhibit No. 2, which was identified the first day of the hearing as an applicant's Exhibit A is a letter from Mr. Calvin E. Weber dated April 24th, 1973.

MR. BLASI: I'll just show it to him if I may. Here's the letter.

(The exhibit was offered to Mr. Weber for examination.)

MR. BLASI: Mr. Weber indicates that he has no objection to this letter going into evidence. It's required by law. That was part of the application.

MR. DICKERSON: Mr. Weber, you will be making a statement?

MR. WEBER: Yes.

MR. BLASI: It's offered in evidence.

MR. DICKERSON: Any objections to re-

ceiving Exhibit No. 2 in evidence?

(Mr. Florence shakes head.)

MR. DICKERSON: Exhibit No. 2 is received the 2nd of October.

(Exhibit No. 2, previously marked for identification, wasreceived in evidence, this date.)

MR. DICKERSON: I think anybody we're going to call is going to be subject to cross-examination, so I got a couple more housekeeping items. Mr. Blasi, you want to move for the other

exhibits at this time, at least Exhibit No. 8, the undertaking form which is a Department formality?

MR. BLASI: I so -- I offer it in

evidence.

MR. DICKERSON: This is the promise to pay the cost of the hearing.

MR. BLASI: I offer that in evidence.

MR. DICKERSON: By the applicant.

MR. BLASI: That's offered in evidence.

MR. DICKERSON: Any objection?

MR. FLORENCE: I move that it's in-

sufficient.

MR. BLASI: You're creating it.

You're making it insufficient. It would normally be more than sufficient. The state has considered it very adequate.

MR. FLORENCE: That's a negative pregnant.

MR. BLASI: I can't be negative and pregnant at the same time.

MR. DICKERSON: O.K. Exhibit No. 8 is going to be received into evidence.

MR. FLORENCE: I object to it on the

ground that it's inadequate and I would ask that it
be revised to reflect more adequately the cost of
the --

MR. DICKERSON: Your objection is overruled, this being the standard amount set by the rules that is required of all applicants. In those cases where hearing proceedings run more than the standard figure, we may have a problem.

(Exhibit No. 8, previously marked for identification was received in evidence, this date.)

MR. DICKERSON: We got one other item which is our large comprehensive wall map we've been referring to. We've doctored it up a little bit now and we will receive Exhibit No. 22 into evidence for what it's worth if there are no objections, that being the Comprehensive Master Plan we have on the wall.

MR. BLASI: Mr. Examiner, do we get that back when you get through with it or is that permanently in and I have to ask you --

MR. DICKERSON: If that's the one that's going into evidence, it's mine. Do you have any extra copies or --

made.

MR. BLASI: We'll have to have them

MR. DICKERSON: I can loan it to you for additional copies to be made from that if you need it.

(Discussion off the record.)

MR. DICKERSON: O.K. Exhibit No. 22 is received into evidence. That's the Comprehensive Master Plan of Heritage Hills.

(Exhibit No. 22, previously marked for identification was received in evidence, this date.)

MR. DICKERSON: I think we're even-

Steven, Mr. Blasi, except for Exhibits 11 and 12.

MR. BLASI: Yes, we are.

MR. DICKERSON: I leave that to your

discretion.

MR. BLASI: Not at this moment.

MR. DICKERSON: Perfect, thank you.

Ladies and gentlemen --

MR. BLASI: Mr. Weber is free now.

MR. DICKERSON: I think Mr. Weber is

going to be cross-examined, so it's not going to save us too much time. I would have liked to have used

the next 16 minutes but maybe we deserve a break.

We will resume here at 10 o'clock tomorrow morning

with the continued cross-examination of Mr. Bibbo and

the completion of any other matters Mr. Blasi wishes

to present to us and then we will continue or start

with the case of the various objectors.

This hearing stands adjourned until 10:00 A.M. tomorrow, October 3rd.

(Whereupon, at 4:45 P.M., the hearing was adjourned to reconvene on Wednesday, October 3rd, 1973 at 10:00 A.M.)

Direct Cross Redirect Recross

631 647

Leonard Bibbo 704 740	
EXHIBITS For Id.	Evid.
No. 2 -	791
No. 8 -	793
No. 22 - Comprehensive Master Plan No. 30 - Letter dated 9/14/73 No. 31 - Calculation of Water Storage in Heritage Hills Well Field, etc. 632	794 628 643
No. 32 - Westchester County Map and Interim Soils Report-Putnam County	703
No. 33 - Qualifications of Leonard Bibbo 705	707
No. 34 - Maps and Plans consisting of three 714 sheets	715
No. 35 - Map and plan entitled "Stream 718 Location"	722

Witnesses:

Walter McPhee (Rec.)